

**County of York, Virginia  
Department of Environmental  
and Development Services**

**Project Manual for the  
York Point Sanitary Sewer Project  
Contract 1 – Linework – Phase I  
IFB No. 1549**



**January 25, 2007**

Prepared by:

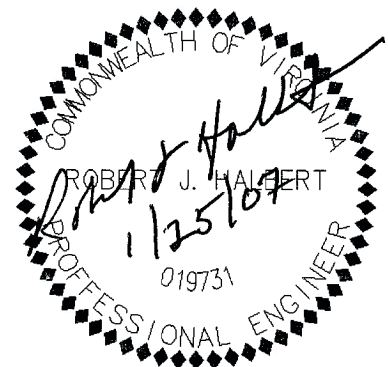
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# ***REGIONAL CONSTRUCTION STANDARDS***

**FOURTH EDITION**

October 2006

# ***REGIONAL CONSTRUCTION STANDARDS***

## ***Fourth Edition***

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## York County Modifications to Regional Construction Standards

The Hampton Roads Planning District Commission (HRPDC) Regional Construction Standards, Fourth Edition has been modified to meet the needs of York County for the **“York Point Sanitary Sewer Project, Contract 1 – Linework – Phase I”** and to accommodate certain provisions of the York County Procurement Ordinance.

Copies of the Regional Construction Standards can be purchased at the offices of the HRPDC at the following addresses:

723 Woodlake Drive  
Chesapeake, Virginia 23320  
(757-420-8300)

2101 Executive Drive  
Hampton, Virginia 23666  
(757-262-0094)

The document may also be accessed on the Internet electronically at [www.hrpdc.org](http://www.hrpdc.org).

**Copies of the Regional Construction Standards obtained directly from the HRPDC or accessed through the Internet will not contain the modifications made by York County with respect to this Project.**

Changes to the front-ends of the HRPDC Regional Construction Standards as applicable to this Project are shown using ~~strike-throughs~~ for deletions and with **bold text** utilized for additions. Certain Regional Construction Standards technical specifications have been changed or clarified for the needs of this Project and those changes and clarifications will be found in Section 110, Special Provisions, of the Bidding Documents. In the event of a conflict between the Regional Construction Standards and the Regional Construction Standards as modified by York County, the York County modifications shall control.

Bidders are cautioned that copies of the Bidding Documents (Drawings, modified Front-ends, and Special Provisions) acquired from the County of York for this Project are to be used when preparing Bids for this Project. However, it is the Bidder's responsibility to also acquire a copy(ies) of the HRPDC Regional Construction Standards, Forth Edition, dated October 2006, (without York County modifications) for use in the preparation of Bids and for the execution of the Work.

## SECTION 101

### DEFINITIONS OF TERMS

#### I. GENERAL DEFINITIONS

Wherever used in the Contract Documents, the following terms shall have the meanings indicated and shall be applicable to both the singular and plural thereof:

- 1.1 *Addenda* - Written or graphic instruments issued prior to the opening of Bids which clarify, correct or change the Bid Documents or the Contract Documents.
- 1.2 *Agreement* - The written agreement between the Owner and the Contractor covering the Work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.
- 1.3 *Application for Payment* - The form provided in the Contract Documents which is to be used by the Contractor in requesting progress and final payments and which is to include such supporting documentation as is required by the Contract Documents.
- 1.4 *Bid* - The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
- 1.5 *Bid Documents* - Documentation issued prior to the bid date, including documentation accompanying the Bid (Drawings, Project Specifications, HRPDC *Regional Construction Standards*, Addenda, and Special Provisions) and any post-Bid documentation submitted prior to the Notice of Award.
- 1.6 *Bidder* - Any person, firm or corporation submitting a Bid for the Work.
- 1.7 *Bonds* - Performance and Payment Bonds, furnished by the Contractor and the Contractor's surety in accordance with the Contract Documents.
- 1.8 *Bid Security* - Bid Bonds and other instruments of surety, furnished by the Contractor or the Contractor's surety in accordance with the Contract Documents.
- 1.9 *Change Order* - A written order to the Contractor authorizing an addition, deletion, or revision in the Work within the general scope of the Contract Documents that authorizes an adjustment in the Contract Price and/or Contract Time; issued on or after the Effective Date of the Agreement.
- 1.10 *Completion Date* - The date specified in the Notice to Proceed for final completion of the Work.
- 1.11 *Contract Documents* - The Agreement, including the Bid Documents, Notice of Award, Notice to Proceed, Field Orders, Change Orders, and modifications.
- 1.12 *Contract Price* - The total monies payable to the Contractor under the terms and conditions of the Agreement.

- 1.13 *Contract Time* - The number of calendar days stated in the Agreement for the completion of the Work. Calendar days shall be understood to be consecutive.
- 1.14 *Contractor* - The person, firm or corporation with whom the Owner has executed the Agreement.
- 1.15 *Day* - A calendar day of twenty-four hours measured from midnight to the next midnight. Calendar days shall be understood to be consecutive.
- 1.16 *Defective* - An adjective, which when modifying the word Work, refers to Work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or has been damaged prior to the Owner's acceptance.
- 1.17 *Drawings* - The plans that show the character and scope of the Work to be performed.
- 1.18 *Effective Date of the Agreement* - The date indicated in the introductory paragraph of the Agreement.
- 1.19 *Engineer* - The person, firm or corporation named as such in the Agreement. In the event the Owner should not require the services of the Engineer, then the powers, duties, and responsibilities conferred in the Contract Documents to the Engineer shall be construed to be those of the Owner.
- 1.20 *Field Order* - A verbal or written order effecting a change in the Work not involving an adjustment in the Contract Price or an extension of the Contract Time, issued by the Engineer or Owner to the Contractor during construction.
- 1.21 *Final Completion* - All work, including punch list items noted at the final inspection, is complete to the satisfaction of the Owner.
- 1.22 *Laws and Regulations* - Any and all applicable laws, rules, regulations, ordinances, codes and orders of any and all governmental bodies, agencies, authorities and courts having jurisdiction.
- 1.23 *Liens* - Liens, charges, security interests or encumbrances upon real or personal property.
- 1.24 *May* - The term "may" is permissive.
- 1.25 *Notice* - All written notices, demands, instructions, claims, approvals, and disapprovals required to obtain compliance with the Contract Documents. Any written notice by either party to the Agreement shall be sufficiently given if delivered to or at the last known business address of the person, firm or corporation constituting the party to the Agreement, or to his, their, or its authorized agent, representative or officer, or when enclosed in a postage envelope addressed to such last known business address and deposited in a United States mailbox. Notice shall be deemed received within 3 business days of U.S. Mail Service postmark date. ***Unless either party shall advise the other in writing to the contrary, the addresses of the parties set out in the Agreement shall be deemed to be valid for the purposes of the delivery of any Notice.***
- 1.26 *Notice of Award* - A written notice by the Owner to the apparent Successful Bidder stating that upon compliance by the apparent Successful Bidder with the conditions precedent enumerated therein, within the time specified, the Owner will sign and deliver the Agreement.

- 1.27 *Notice to Proceed* - A written notice given by the Owner to the Contractor (with a copy to the Engineer, if appropriate) fixing the date on which the Contract Time will commence to run and on which the Contractor shall start to perform its obligations under the Agreement.
- 1.28 *Owner – The County of York, Virginia* – ~~The public body or authority, corporation, association, firm or person with whom the Contractor has entered into the Agreement and for whom the Work is to be provided.~~
- 1.29 *Owner's Representative* - The person, firm or corporation named by the Owner to act as the Owner's agent.
- 1.30 *Partial Utilization* - Use by the Owner of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all the Work.
- 1.31 *Project* - The entire Work as described in the Contract Documents, including Work that is necessary and incidental to the furnishing of all materials, services, equipment, labor and supplies required to install, perform, and complete all items of Work in accordance with Contract Documents
- 1.32 *Reference Standards* – Those bulletins, standards, rules, methods of analysis or test, codes, and specifications of other agencies, engineering societies, or industrial associations referred to in the Contract Documents. These refer to the latest edition, including amendments in effect and published at the time the Project was advertised, unless specifically referred to by edition, volume, or date.
- 1.33 *Regional Construction Standards* - The construction standards, published by the Hampton Roads Planning District Commission (HRPDC) as amended from time to time. ***All references in the Bid Documents and in the Contract Documents to the Regional Construction Standards shall be to the Regional Construction Standards as modified by the Owner with respect to the Project.***
- 1.34 *Responsible Bidder* - A person or firm who, in the sole opinion of the Owner, has the capability in all respects, to fully perform the contractual requirements as well as the moral and business integrity and reliability to assure good faith performance.
- 1.35 *Responsive Bidder* - A person or firm who has submitted a bid that conforms in all material respects to the Bid Documents.
- 1.36 *Resident Project Representative* - The authorized representative of the Engineer or Owner who is assigned to the Project or any part thereof.
- 1.37 *Roadway Prism*- All of the land or area within the right of way that needs to be cut, filled, graded, or otherwise disturbed to produce the design cross section, including, but not limited to, areas for curbs, ditches, sidewalks, paths, and slopes to match existing grade.
- 1.38 *Rock* - Any indurated material with a minimum compressive strength of 200psi that requires drilling, wedging, blasting, or other methods of brute force for excavation.
- 1.39 *Shall* - The term "shall" is mandatory.
- 1.40 *Shop Drawings* - All drawings, diagrams, illustrations, schedules, specified design related submittals, and other data or information which are specifically prepared or assembled by or for the Contractor and submitted by the Contractor to illustrate some portion of the Work.

- 1.41 *Special Provisions* - Requirements in addition to or modification of the HRPDC *Regional Construction Standards*.
- 1.42 *Specifications* - Those portions of the Contract Documents or HRPDC *Regional Construction Standards* consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.
- 1.43 *Standard Details* - Those portions of the HRPDC *Regional Construction Standards* consisting of drawings, explanatory of another drawing, indicating in detail and at a larger scale, the design, location, composition and correlation of elements and materials. ***To the extent of any disparity between the Standard Details set out in the unmodified Regional Construction Standards and those set out in the Drawings or other Contract Documents, the latter shall control.***
- 1.44 *Subcontractor* - A person, firm or corporation having a direct contract with the Contractor or with any other Subcontractor for the performance of a part of the Work at the site.
- 1.45 *Substantial Completion* - That date certified by the Owner when the construction of the Project or a specified part thereof is sufficiently completed in accordance with the Contract Documents, including completion of all tests, so that the Project or specified part can be utilized for the purpose for which it is intended.
- 1.46 *Successful Bidder* - The lowest, responsible and responsive Bidder to whom the Owner (on the basis of the Owner's evaluation as hereinafter provided) makes an award.
- 1.47 *Supplier* - Any person or organization that supplies materials or equipment for the Work, including that fabricated to a special design.
- 1.48 *Underground Facilities* - All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or materials: electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.
- 1.49 *Work* - All labor, materials, equipment, transportation, supervision, or other facilities, duties, or incidentals necessary for execution and completion of the Project in compliance with the Contract Documents.

End of Section

## SECTION 102

### BIDDING REQUIREMENTS AND CONDITIONS

#### I INVITATION FOR BIDS (*IFB No. 1549*)

##### 1. Long Form

PROJECT: *York Point Sanitary Sewer Project, Contract 1 – Linework – Phase I*  
LOCATION: *County of York, Virginia*  
DATE: *January 25, 2007*

The *County of York, Virginia* will receive sealed Bids for the above titled Project at the office of *Central Purchasing*, located at *the York County Finance Building at 120 Alexander Hamilton Blvd. Yorktown Virginia 23690 until 2:00 p.m. local time on February 21, 2007*, at which time the Bids will be publicly opened and read aloud. Any Bids received after the specified time and date will not be considered.

The Work under this Project consists of the *construction of water and sanitary sewer system extensions in the York Point Subdivision of York County, Virginia. Work includes, but is not limited to the installation of approximately 15,400 linear feet of 4, 6, and 8-inch vacuum sewer, 7,800 linear feet of 6-inch diameter force main, 2,200 linear feet of 2-inch diameter force main, and all appurtenances thereto including valve pits, vacuum laterals, division valves, cleanouts, gravity laterals, and pavement overlay and reconstruction involving approximately 48,000 square yards of finished pavement. Services provided by the contractor shall include, but not be limited to the furnishing of all materials, equipment, labor, tools, excavation, clearing, grading, restoration, and testing necessary to complete the water and sewer system extension work in accordance with the Bidding and Contract Documents.*

Bid Documents may be examined at the offices of *the County of York Department of Environmental and Development Services, located at 105 Service Drive, Yorktown, VA, 23690*, and have been provided to the following plan room services:

*McGraw Hill Const. Dodge, 5540 Falmouth Street, Suite 101, Richmond, VA 23230*  
*Peninsula Builders Exchange, 615 Dresden Drive, Newport News, Virginia, 23601*  
*Builders and Contractors Exchange, 1118 Azalea Garden Rd, Norfolk, Virginia, 23502*

Bid Documents may be obtained from the office of *Central Purchasing* upon a non-refundable payment of **\$75.00** for each set of documents. Requests for Bid Documents to be mailed to the Bidder shall be made in writing and accompanied by a non-refundable check in the amount of **\$100.00**. Checks shall be made payable to *Treasurer, County of York*.

The Hampton Roads Planning District Commission's *Regional Construction Standards, Fourth Edition*, October 2006, are hereby referenced and are part of the Bid Documents, except as may be modified by the Special Provisions of this Project or as may be shown by bold type for additions and strike-throughs for deletions. Copies of the **unmodified** *Regional Construction Standards* may be purchased at the offices of the HRPDC, 723 Woodlake Drive, Chesapeake, VA 23320 (Telephone 757-420-8300) or Executive Tower, Suite 1-C, 2101 Executive Drive, Hampton, VA 23666 (Telephone 757-262-0094).

*Bidders must be aware that these Bid Documents incorporate a number of changes, which supplement, modify, or replace language and/or Standard Details found in the HRPDC Regional Construction Standards. Details shown on the Drawings replace corresponding Standard Details found in the Regional*



***Construction Standards. Changes from the Regional Standards that appear in these Bid Documents are shown as bold italics for additions, and ~~strikethroughs~~ for deletions. Also, see Section 110 for additional references to Special Technical Provisions incorporated into this Project.***

Bid Security in the amount of five percent (5%) of the Bid shall be submitted with each Bid.

A [~~MANDATORY~~/NON-MANDATORY] PRE-BID CONFERENCE will be held on ***February 6, 2007*** at ***10:00 a.m./p.m.*** Local Time at ***the York County Department of Environmental and Development Services, Multi-Purpose Room No. 136, 105 Service Drive, Yorktown, Virginia 23690.***

Contractor registration in accordance with Title 2.2 Chapter 43, Code of Virginia is required. The Bidder shall include in its Bid the following notation: "Licensed Virginia Contractor No. \_\_\_\_\_."

Withdrawal of Bids due to error shall be subject to and in accordance with Section 2.2-4330 (***method i***) of the Code of Virginia and the Contract Documents.

The Owner reserves the right to waive minor non-substantive errors in the Bid, to reject any/or all Bids, to award any Bid in whole or in part and award the Bid considered to be in the best interest of the Owner. The Owner also reserves the right to negotiate with the lowest responsive, responsible Bidder should Bid exceed available funds.

The ***County of York*** does not discriminate in the solicitation or awarding of contracts on the basis of race, religion, faith-based organizations, color, national origin, age, disability or any other basis prohibited by state or federal law.

By: ***T. W. Sawyer, CPPO***  
***Central Purchasing***  
***County of York, Virginia***

## 2. Short Form

*(This is an abbreviated version of the IFB intended for newspaper advertisement.)*

### Invitation For Bids

#### County of York, Virginia

Project: ***York Point Sanitary Sewer Project, Contract 1 - Linework - Phase I***  
***IFB No. 1549***

Date: ***January 25, 2007***

Sealed bids are to be received at ***the York County Finance Building at 120 Alexander Hamilton Blvd. Yorktown Virginia 23690*** until ***2:00 p.m. local time on February 21, 2007*** for the above titled Project.

The Work under this Project consists of ***construction of water and vacuum sewer system extensions and all appurtenances in accordance with the Bidding and Contract Documents.***

A ~~[MANDATORY]~~NON-MANDATORY] PRE-BID CONFERENCE will be held on ***February 6, 2007***, at ***10:00 a.m./p.m.*** local time at ***the York County Department of Environmental and Development Services, Multi-Purpose Room No. 136, 105 Service Drive, Yorktown, Virginia 23690.***

The full Invitation For Bids is available at ***the York County Finance Building at 120 Alexander Hamilton Blvd. Yorktown Virginia 23690*** and the local office of the Dodge Plan Room, Peninsula Builders Exchange and Builders and Contractors Exchange.

Associated Bidding Documents are open to inspection as conditioned in the full Invitation For Bids, at ***the York County Finance Building at 120 Alexander Hamilton Blvd. Yorktown Virginia 23690.*** For additional information concerning this project, please contact ***Mr. Joe Sisler, P.E.*** at ***(757) 890-3752.***

## II INSTRUCTIONS TO BIDDERS

### 1. Bid Documents

- 1.1. Complete sets of Bid Documents shall be used in preparing Bids. Neither the Owner nor the Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bid Documents.
- 1.2. The Owner, in making copies of the Bid Documents available on the above terms does so only for the purpose of obtaining Bids on the Work and does not confer or license or grant permission for any other use.
- 1.3. The Special Provisions for this Project as set forth in Section 110 were prepared by **Rummel Klepper and Kahl, LLP** and are dated **January 25, 2007**. Additional Special Provisions for this Project appear as modifications to the HRPDC *Regional Construction Standards* by strike-throughs for deletions and bold type for additions in Sections 100 through 109.
- 1.4. The Drawings for this Project, prepared by **Rummel Klepper and Kahl, LLP** and dated **January 25, 2007 and consisting of 31 sheets** are defined as follows:

<b><u>Sheet No.</u></b>	<b><u>Description</u></b>
<b><i>1</i></b>	<b><i>Cover Sheet</i></b>
<b><i>2</i></b>	<b><i>Sheet Index &amp; Legend</i></b>
<b><i>3</i></b>	<b><i>Key Plan</i></b>
<b><i>4</i></b>	<b><i>Traverse Detail Sheet</i></b>
<b><i>5</i></b>	<b><i>General Notes</i></b>
<b><i>6</i></b>	<b><i>Traffic Control Notes &amp; Details</i></b>
<b><i>7</i></b>	<b><i>Pavement Restoration Notes &amp; Details</i></b>
<b><i>8</i></b>	<b><i>Erosion &amp; Sediment Control Details &amp; Notes</i></b>
<b><i>9</i></b>	<b><i>Water Main &amp; Force Main Details</i></b>
<b><i>10</i></b>	<b><i>Vacuum Details</i></b>
<b><i>11</i></b>	<b><i>Vacuum Details</i></b>
<b><i>12 - 27</i></b>	<b><i>Plan and Profile Drawings</i></b>
<b><i>28 - 29</i></b>	<b><i>Vacuum Lateral Profile Drawings</i></b>
<b><i>30 - 31</i></b>	<b><i>Gravity Lateral Cross-Section Drawings</i></b>

### 2. Examination of Contract Documents and Project Site.

- 2.1. It is the responsibility of each Bidder before submitting a Bid:
  - A. to examine thoroughly the Bid Documents;
  - B. to visit the site to become familiar with and satisfy the Bidder as to the general, local and site conditions that may affect cost, progress, performance, or furnishing of the Work;
  - C. to study and carefully correlate the Bidder's knowledge and observations with the Bid Documents and such other related data; and,

- D. to promptly notify the Owner of all conflicts, errors, ambiguities or discrepancies which the Bidder has discovered in or between the Bid Documents and such other related documents or field/site conditions.
- 2.2 Reference is made to Sections 104 III and 104 IV, for information relating to reports, explorations, underground facilities, and easements. On request, at the discretion of the Owner, the Owner will provide each Bidder access to the site to conduct such examinations, investigations, explorations, tests and studies as each Bidder deems necessary for submission of a Bid. The Bidder shall fill all holes and clean up and restore the site to its former condition, including reseeding and/or resodding any disturbed areas upon completion of such explorations, investigations, tests and studies, and hold the Owner harmless from any damage to property or injury to persons resulting from or arising out of such exploration, investigation, tests, and studies. The Bidder shall obtain and comply with all local and state permitting requirements.
- 3. Interpretations and Addenda.**
- 3.1. No oral explanation in regard to the meaning of the Contract Documents will be made, and no oral instructions will be given before the award of the Work. Discrepancies, omissions or doubts as to the meaning of the Contract Documents shall be communicated in writing to the Owner for interpretation. Bidders should act promptly and allow sufficient time for a reply to reach them before the submission of their Bids. Any interpretation made will be in the form of an addendum to the Contract Documents, which will be forwarded to all known Bidders, and its receipt shall be acknowledged on the Bid Form. All questions shall be received no later than 7 days prior to the date for opening of Bids.
- 3.2. Addenda may also be issued to modify the Contract Documents.
- 4. Bid Security.**
- 4.1. Each bid shall be accompanied by a Bidder's bond issued by a company authorized and licensed to transact business as surety in the Commonwealth of Virginia, a certified check, or cash escrow, in an amount equal to not less than five (5) percent of the total amount of the bid, made payable to the **County of York**, Virginia. Upon approval of the Owner's attorney, in accordance with Section 2.2-4338, Code of Virginia, 1950, as amended, ~~and with Section of the Code of the City/County of Virginia, as amended,~~ **and section 3-8 of the York County Central Purchasing Policy**, a Bidder may furnish a personal bond, property bond, or bank or savings and loan association's letter of credit on certain designated funds for the amount required for the Bid Security. The Bid Security shall be accompanied by a certified copy of the power of attorney for the surety attorney-in-fact. Said bid security shall be left with the Owner, subject to the conditions specified herein, as a guarantee of good faith on the part of the Bidder that if the bid is accepted, the Bidder shall execute the contract.
- 4.2. The Bid Security shall be returned to all except the three (3) lowest Bidders within ten (10) days after the date of Bid opening. The Bid Security will be returned to the three (3) lowest Bidders within five (5) days after the execution of an Agreement and Performance and Payment Bonds and Certificates of Insurance have been approved by the Owner. None of the three (3) lowest Bids shall be deemed rejected, notwithstanding acceptance of one of the Bids, until the Agreement has been executed by both the Owner and the Successful Bidder.
- 5. Liquidated Damages.**

- 5.1. Provisions for liquidated damages are set forth in Section 108-X and in Section 102 III (Bid Form).

## **6. Preparation of Bid.**

- 6.1. All blanks on the Bid Form shall be completed in ink.
- 6.2. Bids by corporations shall be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.
- 6.3. Bids by unincorporated organizations shall be executed in the organization's name and signed by an individual having authority to enter into a contract on behalf of such organization, whose title shall appear under the signature and the official address of the organization shall be shown below the signature. For example, if such organization is a Limited Liability Company, the Bid shall be signed by its manager, *if any, or by a member if a member-managed company*, or if such organization is a Limited Partnership, the Bid shall be signed by a general partner.
- 6.4. All names shall be typed or printed in ink below the signature. All names shall be the legal name of the corporation, unincorporated organization and/or individual.
- 6.5. The Bid shall contain an acknowledgment of receipt of all Addenda (the numbers of which shall be filled in on the Bid Form).
- 6.6. The address, telephone number, e-mail address and fax number for communications regarding the Bid shall be provided.
- 6.7. It is understood and agreed that, in the event an Agreement is executed for the supplies, equipment or services included in the Bid, no indication of such sales or services to the Owner shall be used in any way in product literature or advertising without the written consent of the Owner.

## **7. Quantities and Unit Prices.**

- 7.1. The Owner reserves the right to increase or decrease the amount of any class or portion of the Work. No such change in the Work shall be considered as a waiver of any condition of the Agreement nor shall such change invalidate any of the provisions thereof. Payment will be made at the unit or lump sum prices under the Agreement only for the work actually performed or materials furnished and accepted.
- 7.2. Bidders shall include in their Bid prices the entire cost of each item set forth in the Bid, and it is understood and agreed that there is included in each lump sum or unit price bid item the entire cost necessary or incidental to the completion of that portion of the work, unless such incidental work is expressly included in other lump sum or unit price bid items.

## **8. General Equipment or Material Specification.**

- 8.1. When the Bid Documents specify one or more manufacturer's brand names or makes of materials, devices or equipment as indicating a quality, style, appearance or performance, with the statement "or equal," the Bidder shall base the Bid on either one of the specified brands or an alternate brand which the Bidder intends to substitute. Use of an alternate shall not be permitted unless it has been found to be equal or better by the Owner and at no additional cost to the Owner.

- 8.2. The burden of proof as to the comparative quality and suitability of alternative equipment, articles or materials shall be upon the Bidder. The Bidder shall furnish at its own expense, such information relating thereto as may be required by the Owner. The Owner shall be the sole judge as to the comparative quality and suitability of alternative equipment, articles or materials and the Owner's decisions shall be final. Any other brand, make or material, device or equipment which, in the opinion of the Owner is recognized to be the equal of that specified, considering quality, workmanship and economy of operation and is suitable for the purpose intended, shall be accepted. In the event of any adverse decision by the Owner, no claim of any sort shall be made or allowed against the Engineer or Owner. Samples, if requested by the Bidder, may be returned at the Bidder's expense.

## **9. Proprietary Material and Equipment Specification.**

- 9.1 Where any item of equipment or material is specified by proprietary name, trade name, catalog reference, or name of one or more manufacturers, without the addition of such expressions as "or equal," it is to be understood that those items are so specified for reasons of standardization in maintenance and operation, or for reasons of obtaining desirable features best suited to the requirements of the Specifications. This specific equipment shall form the basis of the Bid and be furnished under the Agreement. Where two or more items of equipment or material are named, the Contractor has the option to use either.

## **10. Alternate Bids.**

- 10.1. If alternate Bids are requested for a portion of all of the Work due to the character of the improvement and uncertainties which may be encountered during construction, Bidders shall submit alternate Bids on all items as shown on the Bid Form. Alternate Bids shall be considered in the order listed in the Bid Form and in accordance with criteria defined in the Special Provisions.
- 10.2. Award shall be based on the lowest responsive and responsible Bid for base Bid plus alternatives selected.

## **11. Submission of Bids.**

- 11.1. Bids shall be submitted at the time and place indicated in the Invitation for Bids and shall be sealed, marked with the Project title and name and address of the Bidder, and accompanied by the bid guarantee and other required documents. The Bid may not be changed by markings on the envelope. Only the amounts indicated on the Bid Form will be considered in determining the final Bid amount. ***It will be the responsibility of Bidder to see that its bid is in the Purchasing Office by the specified time and date. There will be no exceptions. Date of postmark will not be considered. Phone or telegraphic bids (including FAX) will not be accepted.***
- 11.2. When a license is required, the Bidder shall include in its Bid over the Bidder's signature the following notation: "VIRGINIA LICENSED CONTRACTOR NO. \_\_\_\_\_" (Ref. Title 2.2, Chapter 43, Code of Virginia).
- 11.3. When a license is not so required and a person who is not the holder of a License enters a Bid, such person shall include in its Bid over the Bidder's signature the following notation: "LICENSING NOT REQUIRED UNDER VIRGINIA STATE CODE."

## **12. Receipt and Opening of Bids.**

- 12.1. Bids will be opened publicly at the time and place and under the conditions stated in the Invitation for Bids. The Owner's Representative whose duty it is to open Bids will decide when the specified time has arrived. No responsibility will be attached to any such person for the premature opening of a Bid not properly addressed and identified. It is the responsibility of the Bidder to assure that the Bid is delivered to the designated place of receipt prior to the time set for the receipt of Bids. No Bid received after the time designated for receipt will be considered.
- 12.2. Bids will be opened and read aloud publicly.

## **13. Bids to Remain Subject to Acceptance.**

- 13.1. All Bids shall remain subject to acceptance for 90 Days after the day of the Bid opening, but the Owner may, in its sole discretion, release any Bid and return the Bid Security prior to that date, or extend the acceptance period an additional 90 days with the consent of the apparent low bidder and surety.

## **14. Withdrawal of Bids.**

- 14.1. Withdrawal of Bids filed with the Owner may be made only by a representative of the firm submitting the Bid, who shall appear in person prior to the deadline designated in the advertisement for receipt of Bids. Such representative shall furnish satisfactory identification and proof that they are authorized to withdraw the Bid. Telephone, e-mail, or facsimile notices will not be considered. Additions and/or deletions marked on the outside of the Bid envelope will not be considered.
- 14.2. If the Bid price was substantially lower than the other Bids solely to a mistake therein, provided the Bid was submitted in good faith, and the mistake was a clerical mistake as opposed to a judgment mistake, and was actually due to an unintentional arithmetic error or an unintentional omission of a quantity of work, labor, or material made directly in the compilation of a bid, which unintentional arithmetic error or unintentional omission can be clearly shown by objective evidence drawn from inspection of original work papers, documents, and materials used in the preparation of the Bid sought to be withdrawn and provided further the Bidder shall give notice in writing of his claim of right to withdraw within two (2) business days after the Bid opening, then the Bid may be withdrawn.
- 14.3. Should the Bidder refuse to enter into the Agreement after notification of award, the Bid Security shall be forfeited.
- 14.4. No Bid may be withdrawn under this section when the result would be the awarding of the Agreement on another Bid to the same Bidder or to another Bidder in which the ownership of the withdrawing Bidder is more than five percent.
- 14.5. If a Bid is withdrawn under the authority of this section, the remaining Bids shall be evaluated to determine the lowest responsive and responsible Bidder.
- 14.6. No Bidder who is permitted to withdraw a Bid shall, for compensation, supply any material or labor to or perform any subcontract or other work agreement for the person or firm to whom awarded, or otherwise benefit, directly or indirectly, from the performance of the Project for which the withdrawn Bid was submitted.

- 14.7 If withdrawal of any Bid is denied, the Bidder shall be notified in writing stating the reasons for this decision. Any Bidder who desires to appeal a decision denying withdrawal of Bid shall, as sole remedy, institute legal action provided by Section 2.2-4358 and Section 2.2-4364(B), Code of Virginia, 1950, as amended, or ~~Section(s) \_\_\_\_\_ of the Code of the City/County of \_\_\_\_\_ Virginia, as amended.~~

## **15. Evaluation of Bids.**

- 15.1. In evaluating Bids, the Owner shall consider the qualifications of the Bidders, whether or not the Bids comply with the prescribed requirements, unit and lump sum prices, and alternates if requested in the Bid Form.
- 15.2. The Owner may consider the qualifications and experience of subcontractors and other persons and organizations (including those who are to furnish the principal items of material or equipment) proposed for those portions of the Work for which the identity of Subcontractors and other persons and organizations shall be submitted as specified in the Bid Documents.
- 15.3. The Owner may conduct such investigations as deemed necessary to establish the responsibility, qualifications and financial ability of the Bidders, proposed Subcontractors and other persons and organizations to do the Work in accordance with the Bid Documents to the Owner's satisfaction within the prescribed time.
- 15.4. Bids will be based upon the estimated quantities shown in the Bid Form. Bids will be compared on the basis of a total computed price; arrived at by taking the sum of the estimated quantities of each Bid Item, multiplied by the corresponding unit price bid, and any lump sum Bids on the individual items. Discrepancies between the multiplication of units of work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of words. The right to reject any or all Bids or to accept any Bid considered of advantage to the Owner is reserved.
- 15.5. Unless all Bids are canceled or rejected, the Owner reserves the right granted by Section 2.2-4318 of the Code of Virginia and ~~Section(s) \_\_\_\_\_ of the Code of the City/County of Virginia, as amended,~~ ***Section 3-15 of The County of York Purchasing Policy, procurement code section 3-15*** to negotiate with the lowest responsible, responsive Bidder to obtain a Contract Price within the funds budgeted for the construction project. Negotiations with the lowest Bidder may include both modification of the Contract Price ~~and~~ ***but not*** the Scope of Work/Specifications to be performed. The Owner shall initiate such negotiations by Written Notice to the lowest responsible, responsive Bidder that its Bid exceeds the available funds and that the Owner wishes to negotiate a lower Contract Price. The Owner and the lowest responsive, responsible Bidder shall agree to the times, places, and manner of negotiations.
- 15.6. The acceptance of a Bid will be a notice in writing, signed by the Owner, and no other act shall constitute the acceptance of a Bid.
- 15.7. The Owner reserves the right to waive minor non-substantive errors in the Bid, to reject any/or all Bids, to award any Bid in whole or in part, and to award the Bid considered to be in the best interest of the Owner.

## **16. Qualifications of Bidders and Subcontractors.**



- 16.1. The Contractor's Questionnaire is included in the Bid Documents and shall be submitted upon request within 72 hours. This information will assist the Owner in investigations and determination of the Contractor's qualifications to perform the Work.
- 16.2. To demonstrate their qualification to perform the Work, each Bidder shall be prepared to submit further written satisfactory evidence that the Bidder has sufficient experience, necessary capital, materials, machinery and skilled workers to complete the Work. If financial statements are required they shall be of such date as the Owner shall determine and shall be prepared on forms acceptable to the Owner. The Owner may make such investigations as deemed necessary to determine the ability of the Bidder to perform the Work. The Owner's decision or judgment on these matters shall be final, conclusive and binding.
- 16.3. The apparent low Bidder shall, within seven consecutive calendar days after the day of the Bid opening, submit to the Owner a list of all Subcontractors who will be performing work on the Agreement. Such list shall be accompanied by an experience statement with pertinent information as to similar projects and other evidence of experience and qualification for each such Subcontractor, person and organization. If the Owner, after due investigation, has reasonable objection to any proposed Subcontractor, other person or organization, the Owner may, before giving the Notice of Award, request the apparent low Bidder to submit an acceptable substitute without an increase in Bid price. If the apparent low Bidder declines to make any such substitution, the contract shall not be awarded to such Bidder, but his declining to make any such substitution will not constitute grounds for sacrificing his Bid Security. For any Subcontractors, other person or organization so listed and to whom Owner does not make written objection prior to the giving of the Notice of Award, it will be deemed the Owner has no objection.
- 16.4. By submitting their Bid, Bidders certify that they are not now debarred by the Federal Government or by the Commonwealth of Virginia or by any other state, or by any town, city, or county, from submitting Bids on contracts for construction covered by this solicitation, nor are they an agent of any person or entity that is now so debarred.

## **17. Sham or Collusive Bids.**

- 17.1. The Bids of any Bidder or Bidders who engage in collusive bidding shall be rejected. Any Bidder who submits more than one Bid in such a manner as to make it appear that the Bids submitted are on a competitive basis from different parties shall be considered a collusive Bidder.
- 17.2. The provisions contained in Sections 2.2-4367 through 2.2-4377, Code of Virginia, as amended, and ~~Section(s) \_\_\_\_\_ of the Code of the City/County of \_\_\_\_\_ Virginia, as amended,~~ shall be applicable to all contracts solicited or entered into by Owner. By submitting their Bids, all Bidders certify that their Bids are made without collusion or fraud, and that they have not offered or received any kickbacks or inducements from any other Bidder, Supplier, manufacturer or subcontractor in connection with their Bid, and they have not conferred with any public employee having official responsibility for this procurement transaction, any payment, loan, subscription, advance, deposit of money, services or anything of more than nominal value, present or promised, unless consideration of substantially equal or greater value was exchanged.

### III BID FORM

Bids to be opened: **Time 2:00 p.m., Day  
February 21, 2007**

Work to be Completed in: **330 Days (Final Completion),  
300 Days (Substantial  
Completion)**

Liquidated Damages: **\$300.00** per calendar day after time for  
Substantial Completion has expired.  
**\$500.00** per calendar day after time for  
Final Completion has expired.

Performance Bond: 100%

Payment Bond: 100%

Bid Security: 5%

To: **County of York  
105 Service Drive  
Yorktown, VA 23690  
York Point Sanitary Sewer Project, Contract 1 - Linework - Phase I  
Advertisement for Bid  
IFB No. 1549**

#### A. BID PRICE

#### OPTION A - LUMP SUM BID (*Unused*)

#### OPTION B - COMBINATION LUMP SUM AND UNIT PRICE BID (*Unused*)

#### OPTION C - UNIT PRICE BID

In compliance with the Bid Documents, titled **Project Manual for the York Point Sanitary Sewer Project Contract 1 – Linework – Phase I**, and all Addenda issued to date all of which are part of this Bid, the undersigned hereby proposes to furnish all items including materials, supervision, labor, and equipment in strict accordance with, said Contract Documents, for the sum of:

#### BASE BID

NO.	ITEM	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
1	Mobilization (5% of total price of all other bid items)	LS	1		
2	Undercut Excavation with Bedding Backfill	CY	1,000		
3	Select Material - Sand	TON	15,000		
4	Select Material - Stone	TON	15,000		
5	Miscellaneous Unclassified Excavation as Directed by the Owner	CY	1,000		

NO.	ITEM	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
6	Rock Check Dam	Each	41		
7	Temporary Silt Fence	LF	4,000		
8	Inlet Protection	Each	45		
9	Tree Protection	LF	500		
10	Aggregate Base Material	Ton	1,000		
11	Trench Repair Prior to Reconstruction	LF	5,500		
12	Trench Repair Prior to Overlay	LF	4,600		
13	Improved Shoulder	LF	18,000		
14	Asphalt Concrete Pavement Overlay	SY	37,000		
15	Reconstructed Asphalt Pavement	SY	11,000		
16	Concrete Driveway Restoration at Perpendicular Mainline or Lateral Crossing	LF	70		
17	Exposed Aggregate Concrete Driveway Restoration at Perpendicular Mainline or Lateral Crossing	LF	30		
18	Asphalt Driveway Restoration at Perpendicular Mainline or Lateral Crossing	LF	45		
19	Concrete Driveway Restoration at Longitudinal Lateral Installation in Driveway	SY	50		
20	Exposed Aggregate Concrete Driveway Restoration at Longitudinal Lateral Installation in Driveway	SY	50		
21	Asphalt Driveway Restoration at Longitudinal Lateral Installation in Driveway	SY	90		
22	Aggregate Driveway Restoration	Ton	110		
23	Concrete Curb and Gutter Restoration, Complete in Place	LF	1,000		
24	Reset Existing Valve Box or Manhole Frame and Cover for Pavement Overlay, Installed and Complete-in-Place	Each	13		
25	12-inch Culvert Pipe	LF	40		
26	15-inch Culvert Pipe	LF	40		
27	18-inch Culvert Pipe	LF	40		
28	4" DI Water Main, Installed Complete-in-Place	LF	900		
29	8" DI Water Main, Installed Complete-in-Place	LF	7,200		
30	4" Water Main Gate Valve, Installed Complete-in-Place	Each	1		
31	8" Water Main Gate Valve, Installed Complete-in-Place	Each	6		
32	Fire Hydrant Assemble, Type I	Each	6		

NO.	ITEM	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
33	Fire Hydrant Assemble, Type II-A	Each	1		
34	Fire Hydrant Assemble, Type III	Each	5		
35	Water Service Connections	Each	71		
36	3" Vacuum Sewer, Installed Complete-in-Place	LF	1,000		
37	4" Vacuum Sewer, Installed Complete-in-Place	LF	3,680		
38	6" Vacuum Sewer, Installed Complete-in-Place	LF	6,450		
39	8" Vacuum Sewer, Installed Complete-in-Place	LF	4,230		
40	4" Vacuum Sewer Division Valve and Gauge Tap Assembly, Installed Complete-in-Place	Each	8		
41	6" Vacuum Sewer Division Valve and Gauge Tap Assembly, Installed Complete-in-Place	Each	6		
42	8" Vacuum Sewer Division Valve and Gauge Tap Assembly, Installed Complete-in-Place	Each	3		
43	DI Casing Pipe, Installed Complete-in-Place	LF	250		
44	End of Line Marker, Installed Complete-in-Place	Each	22		
45	Shallow Vacuum Valve Pit and Collection Sump, Installed Complete in Place	Each	16		
46	Standard Vacuum Valve Pit and Collection Sump, Installed Complete in Place	Each	14		
47	Deep Vacuum Valve Pit and Collection Sump, Installed Complete in Place	Each	18		
48	Vacuum Sewer Line Flushing and Testing	LS	1		
49	4" PVC Gravity Sewer Lateral, Installed Complete-in-Place	LF	3,130		
50	6" PVC Gravity Sewer Lateral, Installed Complete-in-Place	LF	190		
51	4" PVC Sewer Lateral Cleanout Assembly, Installed Complete-in-Place	Each	125		
52	6" PVC Sewer Lateral Cleanout Assembly, Installed Complete-in-Place	Each	5		
53	2" PVC Force Main, Installed Complete-in-Place	LF	2,210		
54	8" PCV Force Main, Installed Complete-in-Place	LF	7,790		
55	2" Force Main Gate Valve, Installed Complete-in-Place	Each	1		
56	8" Force Main Gate Valve, Installed Complete-in-Place	Each	1		
57	Manual Air Release Valve, Installed Complete-in-Place	Each	13		

NO.	ITEM	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
58	Blow-off Assembly	Each	3		
59	Tracer Wire Access Box	Each	10		
<b>TOTAL OF ALL BASE BID PRICES</b>					

Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based on actual quantities provided, determined as provided in the Contract Documents. The prices quoted shall include without exception all materials, supervision, labor, equipment, appliances, clean-up, incidental items, applicable sales, use and other taxes, insurance, building permit or fees, and the Contractor's labor, overhead, profit, mobilization and other mark-ups, and in full accordance with the Contract Documents. Include allowance for waste where appropriate. The unit prices shall be maintained throughout the Contract Time. Unit prices shall be used in determining additions or deductions from the total Contract Price in the event of changes due to unforeseen conditions in the Work.

**B. ADDENDA**

The undersigned acknowledges receipt of the following addenda:

Addendum No. \_\_\_\_\_ Dated: \_\_\_\_\_.

Addendum No. \_\_\_\_\_ Dated: \_\_\_\_\_.

Addendum No. \_\_\_\_\_ Dated: \_\_\_\_\_.

C. We agree to enter into an Agreement with the **County of York**, Virginia within ten (10) days of the award of same to us for the price named in our Bid.

D. It is expressly agreed by us that the **County of York**, Virginia shall have the right to reject any and all Bids and to waive any minor non-substantive errors in the Bid and accept the Bid in the **County of York's** best interests.

E. In default of the performance on our part of the conditions of Bid, our failure to enter into an Agreement with the **County of York**, Virginia, within the time above set, we herewith furnish a Bid Security in the amount of \$\_\_\_\_\_, which shall be absolutely forfeited to the **County of York**, Virginia, but otherwise the said Bid Security shall be returned.

F. We agree to begin Work at any time we may be notified by the Owner, and complete all of the Work embraced in the Agreement within **330** Days;

G. *[This applies to projects over \$200,000 unless otherwise indicated].* I/We elect to utilize the Escrow Account Procedure described in the provision of this bid if determined to be the successful low Bidder. \_\_\_\_\_ (write "Yes" or "No").

\_\_\_\_\_ Bid total does not qualify for escrow account option

H. The undersigned has read all sections under "Instructions to Bidders."

I. CONTRACTOR'S REGISTRATION AND SIGNATURE

Registered Virginia Contractor Class and No. \_\_\_\_\_

*(NOTE: FAILURE TO INCLUDE CONTRACTOR'S REGISTRATION NUMBER IS GROUNDS FOR REJECTION OF THE BID.)*

Contractor \_\_\_\_\_ Signed \_\_\_\_\_

Date \_\_\_\_\_ Title \_\_\_\_\_

NOTE: If Bidder is a corporation, write state of incorporation under signature.

MAILING ADDRESS AND TELEPHONE NUMBER OF BIDDER:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

( ) \_\_\_\_\_ [Telephone]

IF CORPORATION, PROVIDE NAME AND MAILING ADDRESS AS REQUIRED BELOW.

PRESIDENT

SECRETARY

TREASURER

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

IF PARTNERSHIP, PROPRIETORSHIP, LIMITED LIABILITY COMPANY OR OTHER FIRM, PROVIDE NAME AND MAILING ADDRESS OF EACH PARTNER, PROPRIETOR, OR MEMBER OF FIRM.

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

J. NON COLLUSION AFFIDAVIT

*County of York, Virginia*, project: ***York Point Sanitary Sewer Project,  
Contract 1 - Linework - Phase I***

Bid Date:\_\_\_\_\_

COMMONWEALTH OF VIRGINIA  
(City/County)

This day personally appeared before the undersigned, a Notary Public in and for the City/County and State aforesaid,

\_\_\_\_\_ who having been first duly sworn according to law, did depose and aver as follows:

(a) That he/she is \_\_\_\_\_  
(Owner, Partner, President, etc.)  
of \_\_\_\_\_  
(insert name of Bidder)

(b) That he/she is personally familiar with the Bid of \_\_\_\_\_  
(Insert Company Name)  
submitted in connection with the above captioned Owner's project.

(c) That said Bid was formulated and submitted in good faith as the true bid of said Bidder.

1. In preparation and submission of this Bid, the Bidder did not either directly or indirectly, enter into any combination or agreement with any person, firm or corporation or enter into any agreement, participate in any collusion, or otherwise take any action in the restraint of free, competitive bidding in violation of the Sherman act (15 U.S.C. Section 1) or sections 59.1-9.1 through 59.1-9.17 or sections 59.1-68.6 through 59.1-68.8 of the Code of Virginia.
2. The undersigned Bidder hereby certifies that neither this Bid nor any claim resulting therefrom, is the result of, or affected by, any act of collusion with, or any act of another person or persons, firm or corporation engaged in the same line of business or commerce; and that no person acting for or employed by the Owner has any personal interest in this Bid.
3. The undersigned hereby further agrees that upon request of the Owner, the records and books pertaining to this Bid will be voluntarily supplied, furnished, and released to the Owner.
4. The undersigned hereby further certifies that the Bidder has not knowingly falsified, concealed, misled, or covered up by any trick, scheme, or device a material fact in connection with this bid. The undersigned also certifies that the Bidder has not made any false, fictitious or fraudulent statements or representations or made or used any false writing or documents knowing the same to contain any false, fictitious or fraudulent statement or entry in connection with this Bid.

5. The undersigned further agrees that the Bidder will comply with section 2.2-4374 of the Code of Virginia, 1950, as amended, and has not bought or purchased any equipment from any person employed by the Owner as an independent contractor to furnish architectural or engineering services for this Project, nor from any partnership, association or corporation in which such architect or engineer has a pecuniary interest.
6. The undersigned further agrees to inform and require compliance by the following persons and entities with this anti-collusion statement as a condition of payment: all subcontractors, consultants, subconsultants, or any person, corporation, or legal entities that provide or furnish labor, material, equipment, or work related to this project.
7. All Covenants and Agreements made by the Contractor are made by it on behalf of the Contractor and its successors, personal representatives and assigns, the same as if they had been specifically named in each instance.

And further this deponent saith not.

\_\_\_\_\_  
Name of Company/Bidder

\_\_\_\_\_  
Title (Owner, Partner, President)

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

My commission expires: \_\_\_\_\_, 20\_\_\_\_

\_\_\_\_\_  
Notary Public



#### IV. BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, \_\_\_\_\_  
\_\_\_\_\_ as Principal, and  
\_\_\_\_\_ as Surety, are hereby  
held and firmly bound unto County of York, Virginia as OWNER in the penal sum of \_\_\_\_\_  
\_\_\_\_\_(Five Percent)  
for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves,  
successors and assigns.

Signed, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

The Condition of the above obligation is such that whereas the Principal has submitted to the OWNER a  
certain BID, attached hereto and hereby made a part hereof to enter into an Agreement in writing, for the  
**York Point Sanitary Sewer Project, Contract 1 – Linework – Phase I.**

NOW, THEREFORE,

- (a) If said BID shall be rejected, or
- (b) If said BID shall be accepted and the Principal shall execute and deliver an Agreement in the  
Form of Agreement attachment hereto (properly completed in accordance with said BID) and  
shall furnish a BOND for faithful performance of said Agreement, and for the payment of all  
persons performing labor or furnishing materials in connection therewith, then this obligation  
shall be void, otherwise the same shall remain in force and effect; it being expressly  
understood and agreed that the liability of the Surety for any and all claims hereunder shall,  
in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said  
Surety and its BOND shall be in no way impaired or affected by any extension of the time  
within which the OWNER may accept such BID; and said Surety does hereby waive notice  
of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and  
seals, and such of them as are corporations have caused their corporate seals to be hereto  
affixed and these presents to be signed by their proper officers, the day and year set forth  
above.

\_\_\_\_\_  
Principal

\_\_\_\_\_  
Surety

By: \_\_\_\_\_  
Attorney-in-Fact

IMPORTANT - Surety companies executing BONDS shall appear on the Treasury Department's most current  
list (Circular 570 as amended) and be authorized to transact business in the Commonwealth of Virginia.

**V QUESTIONNAIRE (IFB No.1549)**

If requested by the Owner, the following questions shall be answered in full by the Bidder, and returned to the Owner within 72 hours.

1. Name of Company: \_\_\_\_\_  
Trade Name (if different from Company Name): \_\_\_\_\_  
Principal Office Address: \_\_\_\_\_  
\_\_\_\_\_  
Telephone No(s): \_\_\_\_\_  
Fax No(s): \_\_\_\_\_

- a. If a Corporation, answer the following:

When Incorporated: \_\_\_\_\_

In What State: \_\_\_\_\_

Names and Addresses of Directors: \_\_\_\_\_  
\_\_\_\_\_

Names and Addresses of Shareholders: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- b. If an Unincorporated Organization, answer the following:

Date of Organization: \_\_\_\_\_

Names and Addresses of Owners or Members: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Type and State of Organization: \_\_\_\_\_

- c. If a Partnership, state whether Partnership is General or Limited: \_\_\_\_\_

Names and Addresses of Owners or Partners: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. a. How many years has this Bidder been in business as a Contractor under its present business name? \_\_\_\_\_

- b. What are prior names of this Bidder, if any? \_\_\_\_\_  
\_\_\_\_\_
3. How many years' experience in this type of construction work has this Bidder had:
- 1) As a Contractor \_\_\_\_\_ 2) As a Subcontractor \_\_\_\_\_
4. Provide a list of uncompleted Contracts at present held by this Bidder (attach supplemental sheet if necessary):

<u>Contract</u>	<u>Type of Work</u>	<u>Amount</u>	<u>Percentage Completed</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

5. List the Bidder's crew foremen and supervisors proposed for this Project and their years of related experience:

<u>Name</u>	<u>Years of Experience</u>	<u>Dates of Employment with Bidder</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

6. What construction equipment does this Bidder own that is available for the proposed work (attach supplemental sheet if necessary)?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

7. Does this Bidder plan to subcontract any part of this work? If so, list name, address, years experience, and type and amount of work to be performed by each subcontractor:

\_\_\_\_\_

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8. Provide a list of projects similar in character and scope to the Work specified under this Contract which have been successfully completed by this Bidder during the past three years (attach supplemental sheet if necessary).

(The term "completed" means accepted and final payment received from the Owner or authorized representative).

Location & Type of Work	Owner's Name/ Address	Contact Person (Name and Telephone)	Date Completed	Contract Price

9. Have you ever performed work for a municipal corporation, local governing body, or similar agency previously? (If all such bodies are listed under 8, this question need not be completed).

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10. a. Has this Bidder ever failed to complete any work awarded to it? \_\_\_\_\_ If yes, give name of Owner, name of Bonding Company and circumstances:

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- b. Is this Bidder debarred by the Federal Government or by the Commonwealth of Virginia or by any other state, or by any town, city, or county?

Yes \_\_\_\_\_ No \_\_\_\_\_ If yes, please provide details:

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- c. Has this Bidder ever had any judgements entered against it for the breach of contract for construction? \_\_\_\_\_ If yes, please provide details:

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- d. Give a summary of your financial statement. (List assets and liabilities, use an insert sheet, if necessary).

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11. State approximate largest dollar volume of work performed by this Bidder in one year:

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12. Give two (2) Banking Institution References:

a. Name: \_\_\_\_\_

Address: \_\_\_\_\_

Credit Available: \_\_\_\_\_

b. Name: \_\_\_\_\_

Address: \_\_\_\_\_

Credit Available: \_\_\_\_\_

13. List three material suppliers and amount of credit available:

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14. List insurance coverage and amount (or attach certificate of insurance):

Liability-Property

Liability-Personal Injury

Vehicle and Equipment

Other - Identify

15. Bonding reference - List surety company and highest coverage:

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16. Have you or your authorized representative, personally inspected the location of the proposed Work, and do you have a clear understanding of the requirements of the Bid Documents?

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The undersigned hereby authorizes and consents to any person, firm or corporation to furnish any information requested by the Owner in verification of this statement of contractor's qualifications. Also, if it is the apparent low Bidder, the undersigned hereby agrees to furnish the Owner upon request, a complete and current financial statement:

Contractor:\_\_\_\_\_

By:\_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

## **VI CERTIFICATION REGARDING DEBARMENT**

This is to certify that this person/firm/corporation is not now debarred by the Federal Government or by the Commonwealth of Virginia or by any other state, or by any town, city, or county, from submitting Bids on contracts for construction covered by this solicitation, nor are they an agent of any person or entity that is now so debarred.

\_\_\_\_\_  
Name of Official

\_\_\_\_\_  
Title

\_\_\_\_\_  
Firm or Corporation

\_\_\_\_\_  
Date

## VII. STANDARD BID ITEMS AND UNITS

Section	Bid Item	Category	Unit
301	Clearing and grubbing	Clearing and Grubbing	ACRE or LS
301	Tree protection fencing	Clearing and Grubbing	LF or EA
302	Storm sewer pipe (diameter and type)	Drainage Structures	LF
302	Pipe culverts (waterway opening)	Drainage Structures	LF
302	Pipe reducers (larger diameter)	Drainage Structures	LF
302	Jacked pipe (diameter and type)	Drainage Structures	LF
302	Reinstalled pipe (diameter)	Drainage Structures	LF
302	End sections (standard and size)	Drainage Structures	EA
302	End walls	Drainage Structures	EA
302	Box culverts (waterway opening)	Drainage Structures	LF
302	Pipe grate	Drainage Structures	LF
302	Drop / yard inlets, catch basins, and intake boxes	Drainage Structures	EA
302	Base section (drop inlets and manholes)	Drainage Structures	LF
302	Manhole (0-6' depth) (4 or 5 foot diameter)	Drainage Structures	EA
302	Manhole (>6' depth) (4 or 5 foot diameter)	Drainage Structures	VF
302	Conflict manhole	Drainage Structures	EA
302	Concrete spring boxes	Drainage Structures	EA
302	Junction boxes	Drainage Structures	EA
302	Reconstructed manholes	Drainage Structures	EA
302	Precast Arches	Drainage Structures	LF
303	Regular excavation	Earthwork	CY
303	Pavement demolition (type and depth of pavement) [in proposed pavement]	Earthwork	SY
303	Pavement demolition (type and depth of pavement) [outside proposed pavement]	Earthwork	SY
303	Curb & gutter demolition	Earthwork	LF
303	Existing structure demolition	Earthwork	EA
303	Existing pipe demolition	Earthwork	LF
303	Undercut Excavation (regular)	Earthwork	CY
303	Select Material (min. CBR)	Earthwork	CY
303	Select Bedding (regular)	Earthwork	CY
303	Suitable Fill (regular)	Earthwork	CY
303	Backfill of Undercut Excavation (regular)	Earthwork	CY or TON
303	Surcharge placement and removal	Earthwork	CY
303	Settlement plate	Earthwork	EA
303	Geotextile fabric for Base Preparation	Earthwork	SY
303	Select Bedding/Backfill of Undercut Excavation (trenching)	Earthwork	CY or TON
303	Check dam (log or rock)	Earthwork	EA
303	Undercut Excavation (trenching)	Earthwork	CY
303	Sheeting, bracing, and shoring left in place (trenching)	Earthwork	LS
303	Rip-Rap for erosion control	Earthwork	TON



<b>Section</b>	<b>Bid Item</b>	<b>Category</b>	<b>Unit</b>
303	Baled straw check dam	Earthwork	EA
303	Temporary silt fence	Earthwork	LF
303	Geotextile fabric for Erosion Control	Earthwork	SY
303	Temporary filter barrier	Earthwork	LF
303	Slope drain	Earthwork	EA
303	Sediment basin excavation	Earthwork	CY
303	Siltation control excavation	Earthwork	CY
303	Inlet Protection ( type of device)	Earthwork	EA
303	Construction entrance	Earthwork	EA
305	Select material - Type I	Subgrade and Shoulders	TON
305	Select material - Types II or III	Subgrade and Shoulders	CY
305	Gravel Driveway Replacement	Subgrade and Shoulders	EA
309	Aggregate material (base course)	Aggregate Base Course	CY or TON
309	Aggregate base material (base course for curb and gutter)	Aggregate Base Course	CY or TON
310	Tack coat	Tack and Prime Coat	GALLON
310	Prime coat	Tack and Prime Coat	GALLON
313	Asphalt surface treatment	Asphalt Surface Treatment	SY
315/ 315A	Asphalt concrete (type and class)	Asphalt Concrete Pavement	TON or SY
315/ 315A	Bituminous Leveling Course	Asphalt Concrete Pavement	TONS
315/ 315A	Edge clipping of shoulders	Asphalt Concrete Pavement	LF
317	Pavement Patch	Pavement Patching	LF
406	Reinforcing steel or welded wire mesh	Reinforcing Steel	POUND
406	Epoxy-coated reinforcing steel	Reinforcing Steel	POUND
414	Dry riprap (class and depth)	Riprap	SY or TON
414	Grouted riprap	Riprap	SY or TON
414	Stone riprap for foundation protection (depth)	Riprap	SY or TON
414	Dumped riprap	Riprap	SY or TON
414	Mortared riprap	Riprap	SY
414	Concrete riprap in bags	Riprap	CY
414	Erosion control rip rap	Riprap	SY or TON
501	Underdrain and combination underdrain	Underdrains	LF
502	Curb, combination curb and gutter (detail designation)	Concrete Items	LF
502	Gutter, standard, radial and entrance	Concrete Items	SY or LF
502	Paved ditch	Concrete Items	SY
502	Paved flume	Concrete Items	SY
502	Street Connection pavement	Concrete Items	SY
502	Bridge drainage aprons and chutes	Concrete Items	SY
502	Energy Dissipators	Concrete Items	EA
502	Sign island	Concrete Items	EA or SY
502	Median barriers (including delineators)	Concrete Items	LF

<b>Section</b>	<b>Bid Item</b>	<b>Category</b>	<b>Unit</b>
502	Median Strips	Concrete Items	LF or SY
502	Directional island curb	Concrete Items	LF
502	Hydraulic cement concrete sidewalks (thickness)	Concrete Items	SY
502	Concrete steps (concrete)	Concrete Items	CY
502	Handrails	Concrete Items	LF
502	Geotextile drainage fabric	Concrete Items	SY
502	Curb Cut Ramps	Concrete Items	SY
502	Composite Detectable Warning Panels	Concrete Items	SF
502	Concrete Driveway Replacement (Pipe Installation)	Concrete Items	EA
502	Concrete Driveway	Concrete Items	SY
505	Guardrail (Standard)	Guardrail and Steel Median Barriers	LF
505	Reuse guardrail (Standard)	Guardrail and Steel Median Barriers	LF
505	Radial guardrail (Standard)	Guardrail and Steel Median Barriers	LF
505	Guardrail terminal (Standard and type)	Guardrail and Steel Median Barriers	LF or EA
505	Intermediate anchorage assembly	Guardrail and Steel Median Barriers	EA
505	Median barrier (Standard)	Guardrail and Steel Median Barriers	LF
505	Radial median barrier (Standard)	Guardrail and Steel Median Barriers	LF
505	Median barrier terminal (Standard and type)	Guardrail and Steel Median Barriers	EA
505	Cable barricade (Standard)	Guardrail and Steel Median Barriers	EA
505	Fixed object attachment (Standard)	Guardrail and Steel Median Barriers	EA
505	Special design guardrail bridge attachment (B or Str. No.)	Guardrail and Steel Median Barriers	LS
505	Reuse guardrail terminal (Standard and type)	Guardrail and Steel Median Barriers	LF
505	Guardrail terminal site preparation (Standard)	Guardrail and Steel Median Barriers	EA
505	Bull nose barrier	Guardrail and Steel Median Barriers	EA
507	Fences (Standard and Height)	Fences	LF
507	Gate (Standard and Length)	Fences	EA
510	Remove, reset, relay, adjust, install, modify, reconstruct relocate, existing (Item or standard)	Relocating or Modifying Existing Miscellaneous Items	EA, LF, SY, CY or LS
510	Adjust structure heights	Relocating or Modifying Existing Miscellaneous Items	EA
511	Allaying dust	Allaying Dust	HR
512	Flagger Service (Certified)	Maintaining Traffic	HR
512	Flagger Service (Police-assisted))	Maintaining Traffic	HR
512	Pilot vehicle	Maintaining Traffic	HR
512	PDMS (Type)	Maintaining Traffic	DAY, WEEK or MONTH
512	TMA	Maintaining Traffic	HR, DAY, WEEK or MONTH
512	Electronic Arrow	Maintaining Traffic	HR, DAY, WEEK or MONTH

<b>Section</b>	<b>Bid Item</b>	<b>Category</b>	<b>Unit</b>
512	Warning Light	Maintaining Traffic	DAY, WEEK or MONTH
512	Group 2 Channelizing Devices	Maintaining Traffic	DAY, WEEK or MONTH
512	Traffic barrier service (per location) (Type and/or standard)	Maintaining Traffic	LF
512	Traffic barrier service guardrail termination (standard)	Maintaining Traffic	EA or LF
512	Impact attenuator service (Type)	Maintaining Traffic	EA
512	Temporary signalization	Maintaining Traffic	LS
512	Construction pavement marking (type and message)	Maintaining Traffic	LF
512	Construction pavement message marking (type and width)	Maintaining Traffic	EA
512	Eradication of existing pavement marking (per 6-inch width)	Maintaining Traffic	LF
512	Temporary Pavement marker ([ ]-way)	Maintaining Traffic	EA
512	Temporary Detour (standard and type)	Maintaining Traffic	LF
512	Crusher run aggregate (No. 25 or 21A)	Maintaining Traffic	TON
512	Type III Barricades	Maintaining Traffic	EA
512	Construction Signs	Maintaining Traffic	EA/DAY or SF
513	Mobilization (3 payments)	Mobilization & Demobilization	LS
515	Milling Pavement	Milling Pavement	SY
521	Pavers	Pavers	SF
521	Spare Pavers	Pavers	SF
530	Abandon Laterals and Cleanouts (on Abandoned Mains)	Abandonment of Existing Pipelines and Structures	LF or EA
530	Abandon Pipe, (diameter) < larger than 2-inch>	Abandonment of Existing Pipelines and Structures	LF
530	Abandon Meter Boxes	Abandonment of Existing Pipelines and Structures	EA
530	Abandon Laterals and Cleanouts (on Active Mains)	Abandonment of Existing Pipelines and Structures	EA
530	Abandon Manholes	Abandonment of Existing Pipelines	EA
530	Abandon Drainage Structures	Abandonment of Existing Pipelines and Structures	EA
530	Abandon Meter/Valve Vaults/Boxes	Abandonment of Existing Pipelines and Structures	EA
530	Abandon Metallic Structures	Abandonment of Existing Pipelines and Structures	EA
602	Topsoil (4-or 6-inch depth)	Topsoil	ACRE or SY
603	Lime, fertilizer, seed and mulch	Seeding	ACRE or SY
604	Sod, fertilizer and lime	Sodding	SY
605	Plants (Type and size)	Planting	EA
605	Mulching and remulching	Planting	100 SF
608	Mowing	Mowing	HR or LS
700	Concrete foundation (Standard, type and, size)	Traffic Control Devices	EA
700	Electrical service (Standard and type)	Traffic Control Devices	EA

<b>Section</b>	<b>Bid Item</b>	<b>Category</b>	<b>Unit</b>
700	Luminaire arm (Length)	Traffic Control Devices	EA
	Lighting pole		
700	(Standard luminaire mounting height, and length of luminaire arm)	Traffic Control Devices	EA
	Signal pole		
700	(Standard, length, number, and length of arms)	Traffic Control Devices	EA
700	Overhead sign structure	Traffic Control Devices	EA
700	Bridge-mounted sign structure (Location)	Traffic Control Devices	EA
700	Pedestal pole (Standard and length)	Traffic Control Devices	EA
700	Wood pole (Class and length)	Traffic Control Devices	EA
700	Conductor Cable (Size/number)	Traffic Control Devices	LF
700	Conduit (Type and size)	Traffic Control Devices	LF
700	Trench Excavation (Standard)	Traffic Control Devices	LF
700	Junction box (Standard)	Traffic Control Devices	EA
704	Pavement line marking (Type and/or class and width)	Traffic Control Devices	LF
704	Pavement message marking (Message)	Traffic Control Devices	EA
704	Pavement marker (Type, [ ]-way, and/or type pavement)	Traffic Control Devices	EA
801	Ductile iron water main (diameter)	Water Distribution Systems	LF
801	PVC water main (diameter)	Water Distribution Systems	LF
801	PVCO (diameter)	Water Distribution Systems	LF
801	HDPE (diameter)	Water Distribution Systems	LF
801	Fire hydrant assembly	Water Distribution Systems	EA
801	Water sampling stations	Water Distribution Systems	EA
801	Gate valves (diameter)	Water Distribution Systems	EA
801	Butterfly Valves (diameter)	Water Distribution Systems	EA
801	Water Meter Box	Water Distribution Systems	EA
801	Tapping sleeve/valve (diameter)	Water Distribution Systems	EA
801	Blowoff Assembly	Water Distribution Systems	EA
801	Manual air vent assembly	Water Distribution Systems	EA
801	Type K copper service lines (jack and pull)	Water Distribution Systems	LF or EA
801	Type K copper service lines (open cut)	Water Distribution Systems	LF or EA
801	Type K copper dual service lines (jack and pull )	Water Distribution Systems	LF or EA
801	Type K copper dual service lines (open cut)	Water Distribution Systems	LF or EA
801	Polyethylene encasement	Water Distribution Systems	LF
801	Connections to existing water mains	Water Distribution Systems	EA
801	Plugging Existing 2" Water Main	Water Distribution Systems	EA
801	Offset of Existing Water Main	Water Distribution Systems	LF
801	Cut in Tees	Water Distribution Systems	EA
801	Cut in Crosses	Water Distribution Systems	EA
801	Cut in Valves	Water Distribution Systems	EA
802	Gravity sewer pipe (diameter, type and depth 0-6, 6-8,	Sanitary Gravity Sewer Systems	LF

Section	Bid Item	Category	Unit
	8-10,10-12,12-14,14-16,16-18,18-20, >20')		
802	Sewer laterals (type and diameter)	Sanitary Gravity Sewer Systems	LF or EA
802	Manhole, 0' to 6' in depth (4-or 5-foot dia.)	Sanitary Gravity Sewer Systems	EA
802	Manhole extra depth (4-or 5-foot dia.)	Sanitary Gravity Sewer Systems	VF
802	Drop Manhole (inside or outside)	Sanitary Gravity Sewer Systems	EA
802	Standard manhole frame and cover	Sanitary Gravity Sewer Systems	EA
802	Watertight manhole frame and cover	Sanitary Gravity Sewer Systems	EA
802	Clean-out assemblies (mainline and service lateral)	Sanitary Gravity Sewer Systems	EA
802	Remote Camera/TV Inspection	Sanitary Gravity Sewer Systems	LF
802	Connections to existing manholes	Sanitary Gravity Sewer Systems	EA
802	Manhole and Mainline Cleanout adjustment rings	Sanitary Gravity Sewer Systems	EA
802	Manhole/Structure Coatings (Type A or B, 4- or 5-foot manhole diameter)	Sanitary Gravity Sewer Systems	VF or EA
803	Ductile iron force main (diameter)	Sanitary Force Main Systems	LF
803	HDPE force main (diameter)	Sanitary Force Main Systems	LF
803	PVC force main (diameter)	Sanitary Force Main Systems	LF
803	Manual air vent assembly	Sanitary Force Main Systems	EA
803	Gate valves (diameter)	Sanitary Force Main Systems	EA
803	Tapping sleeve/valve (diameter)	Sanitary Force Main Systems	EA
803	Connections to existing force mains or manholes	Sanitary Force Main Systems	EA
803	Interior Pipe Corrosion Lining (Diameter)	Sanitary Force Main Systems	LF
803	Offset of Existing Force Main	Sanitary Force Main Systems	LF
803	Cut in Tees	Sanitary Force Main Systems	EA
803	Cut in Crosses	Sanitary Force Main Systems	EA
803	Cut in Valves	Sanitary Force Main Systems	EA
804	Bore and jack casing (diameter)	Boring and Jacking	LF
806	Horizontal Directional Drill	Horizontal Directional Drilling	LS

#### Sanitary Sewer Rehabilitation

#### (Sections 810-822)

810	Light Cleaning (diameter)	Sewer Line Cleaning	LF
810	Heavy Cleaning (diameter and number of passes greater than 3)	Sewer Line Cleaning	LF
810	Manhole Cleaning	Sewer Line Cleaning	EA
811	Television Inspection (CCTV Only)	Television Inspection	LF
812	Bypass Pumping / Flow ~____ MGD (Flow > 2 MGD)	Bypass Pumping	LS
813	CIPP Method/Wall Thickness=____mm (Diameter)	Pipe Rehabilitation By Cured-In- Place Method	LF
813	Removal of Intruding Service Lateral Connections (Ferrous or Non-Ferrous)	Pipe Rehabilitation By Cured-In- Place Method	EA
814	Fold and Form Method / Wall Thickness = SDR ____ (diameter)	Pipe Rehabilitation By Fold and Form Pipe Method	LF
814	Removal of Intruding Service Lateral Connections (Ferrous or Non-Ferrous)	Pipe Rehabilitation By Fold and Form Pipe Method	EA

<b>Section</b>	<b>Bid Item</b>	<b>Category</b>	<b>Unit</b>
816	Sewer Joint Testing (diameter)	Sewer Joint Testing	EA
817	Chemical Joint Sealing / Grouting	Chemical Grouting	GAL
818	Sewer Point Repair (diameter, material, and depth 0-6, 6-8, 8-10, 10-12, 12-14, 14-16, 16-18, 18-20, >20')	Point Repair By Excavation	LF
819	Insitu Structural Point Repair / Wall Thickness = ____ mm 0-3 Foot Section Length (diameter)	Insitu Structural Point Repair	EA
819	Insitu Structural Point Repair / Wall Thickness = ____ mm 3-6 Foot Section Length (diameter)	Insitu Structural Point Repair	EA
819	Insitu Structural Point Repair / Wall Thickness = ____ mm 6-9 Foot Section Length (diameter)	Insitu Structural Point Repair	EA
819	Insitu Structural Point Repair / Wall Thickness = ____ mm 9-12 Foot Section Length (diameter)	Insitu Structural Point Repair	EA
819	Insitu Structural Point Repair / Wall Thickness = ____ mm 12-15 Foot Section Length (diameter)	Insitu Structural Point Repair	EA
820	Insitu Point Repair by Sectional Lining / Wall Thickness = ____ mm 6-9 Foot Section Length (diameter)	Insitu Point Repair By Sectional Lining	EA
820	Insitu Point Repair by Sectional Lining / Wall Thickness = ____ mm 9-12 Foot Section Length (diameter)	Insitu Point Repair By Sectional Lining	EA
820	Insitu Point Repair by Sectional Lining / Wall Thickness = ____ mm 12-15 Foot Section Length (diameter)	Insitu Point Repair By Sectional Lining	EA
821	Service Laterals (diameter and material)	Sanitary Sewer Service Reconnection	LF
822	Manhole Cementitious Coating, 0-6' depth (4- or 5-ft diameter)	Manhole Rehabilitation	EA
822	Manhole Cementitious Coating extra depth (4- or 5-ft diameter)	Manhole Rehabilitation	VF
822	Manhole Fiberglass Insert Liner, 0-6' depth (4- or 5-ft diameter)	Manhole Rehabilitation	EA
822	Manhole Fiberglass Insert Liner extra depth (4- or 5-ft diameter)	Manhole Rehabilitation	VF
822	Manhole Epoxy Coating, 0-6' depth (4- or 5-ft diameter)	Manhole Rehabilitation	EA
822	Manhole Epoxy Coating extra depth (4- or 5-ft diameter)	Manhole Rehabilitation	VF
822	Manhole Frame Seals	Manhole Rehabilitation	EA

End of Section

## SECTION 103

### AWARD AND EXECUTION OF AGREEMENT

#### I AWARD AND EXECUTION OF AGREEMENT

##### 1. Notice of Award.

- 1.1. A Notice of Award will be issued by the Owner, or the Bids rejected as soon as reasonably possible, but no later than 90 Days after the date of the opening of Bids. The Owner may, in its sole discretion, release any Bid and return the Bid Security prior to that date, or extend the acceptance period an additional 90 days with the consent of the apparent low bidder and surety.
- 1.2. The Owner reserves the right to waive any informality or technical defects, to reject any and all Bids in whole or in part, and may advertise for new Bids if, in its judgment, the best interests of the Owner will be served.
- 1.3. At the time of the issuance of the Notice of Award, the Owner shall publicly post an announcement of the award on/at the office of ***Central Purchasing, located at the York County Finance Building at 120 Alexander Hamilton Blvd. Yorktown Virginia 23690 and the County of York's web page @ [www.yorkcounty.gov](http://www.yorkcounty.gov).***

##### 2. Signing of Agreement.

- 2.1. When the Owner gives a Notice of Award to the Successful Bidder, it will be accompanied by 4 original copies of the Agreement, with all other written Contract Documents attached. Within 10 Days thereafter the Contractor shall sign and deliver all the original copies of the Agreement and attached documents to the Owner with the required Bid Security and Certificate of Insurance. Within 30 Days thereafter the Owner shall deliver one fully signed copy to the Contractor.
- 2.2. If the Successful Bidder fails to execute the Agreement within the time specified, the amount of Bid Security shall be paid to the Owner. In such case the Owner, at its discretion, may award the Work to the second Successful Bidder, or reject all Bids.

##### 3. Performance and Payment Bonds.

- 3.1. The Successful Bidder shall execute and provide to the Owner, within 10 Days following Notice of Award, Performance and Payment Bonds with surety in an amount equal to 100% of the accepted Bid. The sureties of all Bonds shall be of such surety company or companies as are approved by the Owner and are authorized to transact business in the Commonwealth of Virginia. If the execution is by an attorney-in-fact, a power of attorney evidencing the authority of such attorney shall be attached to the Bond. Such power of attorney shall bear the same date as the Bond to which it is attached.
- 3.2. All Bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws and Regulations and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff, Bureau of Government Financial Operations, U. S. Treasury Department, **and licensed to do business in Virginia.**

- 3.3. Performance and Payment Bonds shall remain in full force during the warranty period defined in Section 107, VII.

**4. Contractor's Insurance.**

- 4.1. The Contractor shall provide and keep in full force and affect during the performance of the Work the kinds and amounts of insurance specified below and shall comply with all other provisions of this Section. Such insurance shall be provided and kept in full force by insurance companies authorized to do business in the Commonwealth of Virginia, and regulated by the Virginia Bureau of Insurance. All premiums and other costs of such insurance shall be paid by the Contractor. It will be assumed that the consideration paid or to be paid to the Contractor for the performance of the Work includes the premiums and other such costs of such insurance, and the Owner shall not be responsible therefore. Each insurance policy and certificate of insurance shall be signed by duly authorized representatives of such insurance companies in the State and shall be countersigned by duly authorized agents of such companies. The Contractor shall not be required to furnish the Owner with copies of the insurance contracts required by this Section unless requested from time to time by the Owner; but the Contractor shall provide on forms furnished by the Insurance Company or Owner a Certificate of Insurance issued by such Insurance Companies, in which the company shall irrevocably warrant that the insurance is provided to enable the Contractor to comply with and provide the required insurance; (provided, however, that in no event shall the insurance contract be expanded to afford coverage which is greater than the maximum coverage approved for writing in the Commonwealth of Virginia) and that it will not be canceled unless at least thirty days' prior written Notice to the effect is given to the Owner, anything in such insurance contract to the contrary notwithstanding, and that the insurance contract has been endorsed accordingly.
- 4.2. The Contractor shall provide the certificate of insurance to the Owner within 10 Days following the Notice of Award.
- 4.3. Insurance Requirements:
- A. The Contractor shall purchase and maintain during the life of this Agreement such Comprehensive General Liability Insurance including product and completed operations liability insurance as will provide protection from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether such performance is by Contractor, or by Subcontractor, by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable and shall otherwise bear responsibility therefore. The Contractor further agrees that all limits will be made available which are excess of the amounts below:

(1) Workers Compensation and Employers Liability

Coverage A - Statutory

Coverage B - \$100,000/\$100,000/\$500,000

A broad form of all states endorsement shall be attached.

(2) Commercial Auto Liability Including Hired and Non-Owned Car Liability Coverage

Limit of Liability - \$1,000,000 Per Occurrence

The Contractor shall purchase and maintain during the life of this Agreement such commercial automobile liability insurance including employer's non-ownership liability and



hired car liability insurance to protect him and any Subcontractors performing Work covered by this Agreement from claims for damages, whether such operations be by him or any Subcontractor, or by anyone directly or indirectly employed by either of them.

- (3) Commercial General Liability Including Contractual and Completed Operations.

Limit of Liability - \$1,000,000 Per Occurrence

- (4) Excess Liability Including Employers Liability, Commercial Auto Liability and Commercial General Liability.

Limit of Liability - \$1,000,000 Per Occurrence  
\$3,000,000 Aggregate

- B. The Contractor shall be responsible for securing the Work site and shall assume all risk for vandalism or other damage that may occur, to project components, during construction.
- C. The Owner, **its Officers, agents and employees** shall be named as an additional insured on the Commercial General Liability, ***Commercial Auto Liability, and Excess Liability policies***, per ISO 2010 on a primary basis. The Contractor shall obtain a waiver of subrogation from its insurers on Worker's Compensation and All Risk Insurance policies. This requirement may be satisfied by obtaining appropriate endorsements to any master or blanket policy of insurance maintained. Owner's Commercial General Liability shall not contribute in any loss payment insured under the Contractor's Commercial General Liability policy
- D. Contingent liability and property damage insurance to protect the Owner (or his employees and agents, including the Engineer) shall be provided by endorsements to general liability or property damage policies. All aforesaid policies shall be endorsed to provide that the insurance company shall notify the Owner if policies are to be terminated or altered during the life of the contract.
- E. The General Liability insurance shall carry a contractual liability endorsement covering the hold harmless agreements contained in the Owner standard contract and the certificates filed with the Owner shall show that the contractual liability coverage has been obtained.
- F. Insurance coverage for personal injury and property damage, including insurance on vehicles and equipment, shall be in the same company.
- G. The Contractor shall also be required to submit to the Owner evidence of insurance coverage or self-insurance for all claims arising under the Worker's Compensation Laws of the State of Virginia.
- H. The Contractor will indemnify and hold harmless the Owner, and the Owner's officers, agents, employees, and other representatives, against any liability, loss or expense (including the loss of use of the Project), due to any act or omission of Contractor or any of their Subcontractors or of any of their respective employees in connection with the Work of the Contractor hereunder or due to any omissions or supervisory acts of the Owner in connection with the Work performed by the Contractor.

**II NOTICE OF AWARD** (IFB No. 1549)

TO: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

PROJECT TITLE: *York Point Sanitary Sewer Project, Contract 1 - Linework - Phase I*  
\_\_\_\_\_  
\_\_\_\_\_

The Owner has considered the Bid submitted by you for the above described Work in response to its Invitation for Bids dated \_\_\_\_\_, 20\_\_\_\_, and Instructions to Bidders.

You are hereby notified that your Bid has been accepted for the Work in the amount of \$\_\_\_\_\_.

You are required by the terms of the Bid Documents to fully execute and return 4 copies of the Agreement along with the required Contractor's Performance Bond, Payment Bond, and Certificates of Insurance within 10 Days from the date of this Notice of Award.

If you fail to execute the Agreement and to furnish said Bonds and Certificate of Insurance within 10 Days from the date of this Notice, said Owner will be entitled to consider all your rights arising out of the Owner's acceptance of your Bid as abandoned and as a forfeiture of your Bid Security. The Owner will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this Notice of Award to the Owner. The notice of award shall not be construed as notice to proceed.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
Owner

By \_\_\_\_\_

Title \_\_\_\_\_

### III AGREEMENT (IFB No. 1549)

This AGREEMENT, dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by and between County of York, Virginia, hereinafter called the Owner; and \_\_\_\_\_ (a corporation or an unincorporated organization organized and existing under the laws of the State of \_\_\_\_\_ or, an individual trading under the above name) hereinafter called the Contractor.

WITNESSETH: The Owner and Contractor, for the consideration stated herein, agree as follows:

#### A. Scope of Work

The Contractor shall perform all required Work and shall provide and furnish all labor, materials, necessary tools, expendable equipment and utility and transportation service and all else required to complete the construction of the York Point Sanitary Sewer Project, Contract 1 - Linework - Phase I project all in strict accordance with the Drawings and Specifications, including any and all Addenda, and in strict compliance with the Contract Documents, the terms of which are incorporated herein by reference.

It is understood and agreed that said labor, materials, tools, equipment and service shall be furnished and said Work performed and completed under the direction and supervision of the Contractor and subject to the approval of the Owner or its authorized representative.

#### B. Engineer

This Project has been designed by Rummel, Klepper and Kahl, LLP who is hereinafter called the Engineer and who is to act as the Owner's Representative, assume all duties and responsibilities, and have the rights and authority assigned to the Engineer in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents. In the event the Owner should not require the services of the Engineer for any or all parts of the project, the power, duties, and responsibilities conferred hereto to the Engineer shall be construed to be those of the Owner or its authorized representative.

*Wherever references are made in these Bid Documents to the Virginia Department of Transportation (VDOT) specifications, unless otherwise noted, references in the VDOT specifications to "State", "Chief Engineer", or "Department", shall be interpreted as referring to the Owner.*

#### C. Guarantee

All materials and equipment, furnished by the Contractor, and all construction involved in this Agreement are hereby guaranteed by the Contractor to be free from defects owing to faulty materials or workmanship for a period of one year after date of Substantial Completion of the Work. All Work that proves defective, by reason of faulty material or workmanship within said period of one year, shall be replaced by the Contractor free of cost to the Owner. These guarantees shall not operate as a waiver of any of the Owner's rights and remedies for default under or breach of the Agreement which rights and remedies may be exercised at any time within the period of any applicable statute of limitations.

*In accordance with the Virginia Department of Transportation Special Provision for Underground Installation, the Contractor shall provide a three (3) year warranty against pavement settlement or failure.*

D. Contract Price

The Owner shall pay the Contractor as just compensation for the satisfactory performance of the Work, subject to any additions or deductions as provided in the Contract Documents, the unit and/or lump sum price as contained in the Bid Schedule attached hereto.

The Contract Price is \_\_\_\_\_ (\$\_\_\_\_\_) based upon unit and/or lump sum prices extended as herein contained.

E. Payments

The Owner will pay the Contract Price to the Contractor in the manner and at such times as set forth in Section 109 of the Hampton Roads Planning District Commission *Regional Construction Standards*, Fourth Edition, as referenced in Section I. below and as specifically revised for this Project.

F. Time

The undersigned Contractor agrees to commence Work within 30 Days after the date of Notice to Proceed and further agrees to substantially Complete all Work under this Agreement within 300 Days from the date of the Notice to Proceed and to reach Final Completion of all Work under this Agreement within 330 Days from the date of the Notice to Proceed.

G. Applicable Law/Compliance

(1) Applicable Law

This Agreement shall be deemed to be a Virginia contract and shall be governed as to all matters of validity, interpretations, obligations, performance, or otherwise, exclusively by the laws of the Commonwealth of Virginia, and all questions arising with respect thereto shall be determined in accordance with such laws. Regardless of where actually delivered and accepted, this Agreement shall be deemed to have been delivered and accepted by the parties in the Commonwealth of Virginia.

(2) Compliance with all Laws

Contractor shall comply with all federal, state and local statutes, ordinances, and regulations, now in effect or hereafter adopted, in the performance of Work set forth herein. Contractor represents that it possesses all necessary licenses and permits required to conduct its business and will acquire any additional license and permits necessary for performance of this Agreement prior to the initiation of Work. [If the Contractor is a corporation] Contractor further expressly represents that it is a corporation in good standing in the Commonwealth of Virginia and will remain in good standing throughout the term of the contract. Contractor shall at all times observe all health and safety measures and precautions necessary for the sanitary and safe performance of the contract Work.

(3) Venue

Any and all suits for any claims or for any breach or dispute arising out of these Contract Documents shall be maintained in the appropriate court of competent jurisdiction in the County of York, Virginia.

(4) Environmental Considerations

Any cost or expense associated with environmentally related violations of the law, the creation or maintenance of a nuisance, or releases of hazardous substance, including but not limited to, the cost of any clean up activities, removals, remediation, responses, damages, fines, administrative or civil penalties or charges imposed on the Owner, whether because of actions or suits by any governmental or regulatory agency or by any private party, as a result of the release of any hazardous substances, or any noncompliance with or failure to meet any federal, state or local standards, requirements, laws, statutes, regulations or the law of nuisance by the Contractor (or its agents, officers, employees, subcontractors, consultants, subconsultants, or any other persons, corporations, or legal entities employed, utilized, or retained by the Contractor) in the performance of this Agreement or related activities, shall be paid by the Contractor.

(5) Non-Discrimination/Drug-Free Workplace Provisions

(a) Employment discrimination by Contractor shall be prohibited. During the performance of this Agreement, Contractor agrees as follows:

- (i) Contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification/consideration reasonably necessary to the normal operation of Contractor. Contractor will conform to the provisions of the Federal Civil Rights Act of 1964, as amended, as well as the Virginia Fair Employment Act of 1975, as amended, where applicable, the Virginians With Disabilities Act, the Americans With Disabilities Act, and the Code of Virginia § 2.2-4311. If the award is made to a faith-based organization, the organization shall not discriminate against any recipient of goods, services, or disbursements made pursuant to the Agreement on the basis of the recipient's religion, religious belief, refusal to participate in a religious practice, or on the basis of race, age, color, gender or national origin and shall be subject to the same rules as other organizations that contract with public bodies to account for the use of the funds provided; however, if the faith-based organization segregates public funds into separate accounts, only the accounts and programs funded with public funds shall be subject to audit by the public body. Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
- (ii) Contractor, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, will state that Contractor is an equal opportunity employer.
- (iii) Notices, advertisements and solicitations placed in accordance with federal law, rule or regulations shall be deemed sufficient for the purpose of meeting the requirements of this section.
- (iv) Contractor will include the provisions of the foregoing subsections (i) and (ii), and (iii) in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

(b) During the performance of this Agreement, Contractor agrees as follows:

- (i) Contractor will provide a drug-free workplace for Contractor's employees.
- (ii) Contractor will post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in Contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition.
- (iii) Contractor will state in all solicitations or advertisements for employees placed by or on behalf of Contractor that Contractor maintains a drug-free workplace.
- (iv) Contractor will include the provisions of the foregoing subsections (i), (ii) and (iii) in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.
- (v) For the purposes of this section, "Drug-free workplace" means a site for the performance of work done in connection with a specific contract awarded to a Contractor, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession, or use of any controlled substance or marijuana during the performance of the contract."

H. Liquidated Damages

The damage and loss to the Owner resulting from failure of the Contractor to complete the Work within the time specified in this Agreement, plus any extension of time granted, shall be stipulated in Section 108.X, and Section 102.III, Bid Form. Damage monies may be withheld on partial and final payment to the Contractor. (See Section 102.III Bid Form and Section 108.X for explanation and specified dollar amounts.)

I. Component Parts of the Contract

This Agreement includes all completed components of the Bid and Contract Documents as defined in Section 101 of the *HRPDC Regional Construction Standards* (Latest Edition indicated in the Invitation For Bids), as revised for this Project all of which are incorporated herein by reference.

J. Binding

This Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.

K. Changes to the Agreement

No provision of this Agreement shall be changed, amended, modified, waived, or discharged except as agreed to in writing by the Owner and the Contractor.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as of the day and first above written in (4) counterparts each of which shall for all purposes be deemed an original.

**OWNER**

\_\_\_\_\_  
*Owner*  
By: \_\_\_\_\_  
*Name*  
Title: \_\_\_\_\_

Attest: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**CONTRACTOR**

\_\_\_\_\_  
*Contractor*  
By: \_\_\_\_\_  
*Name*  
Title: \_\_\_\_\_

Attest: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Contractor's Registration No.: \_\_\_\_\_

(If Contractor is a corporation or an unincorporated organization, attach evidence of authority to sign)

*[Corporate Seal]*

APPROVED AS TO FORM:

\_\_\_\_\_  
City/County Attorney

#### IV PERFORMANCE BOND

Bond No. \_\_\_\_\_

Amount: \$ \_\_\_\_\_

KNOW ALL PERSONS BY THESE PRESENTS, that \_\_\_\_\_  
\_\_\_\_\_ of \_\_\_\_\_

\_\_\_\_\_, hereinafter called the Contractor and \_\_\_\_\_ a corporation duly organized and existing under and by virtue of the laws of the State of \_\_\_\_\_, hereinafter called the Surety, and authorized to transact business within the Commonwealth of Virginia as the Surety, are held and firmly bound unto County of York, Virginia as Owner, in the sum of \_\_\_\_\_ dollars (\$ \_\_\_\_\_), lawful money of the United States of America, for payment of which, well and truly be made to the Owner, the Contractor and the Surety bind themselves and each of their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents as follows:

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT:

WHEREAS, the Contractor has executed and entered into a certain Agreement, hereto attached, with the Owner dated \_\_\_\_\_, 20\_\_\_\_, for York Point Sanitary Sewer Project, Contract 1 – Linework – Phase I.

NOW THEREFORE, if the Contractor, and its successors and assigns, shall at all times duly, promptly, and faithfully perform the Work and any alteration in or addition to the obligations of the Contractor arising thereunder, including the matter of infringement, if any, of patents or other proprietary rights, and shall assure all guarantees against defective workmanship and materials, including the guarantee period following final completion by the Contractor and final acceptance by the Owner and comply with all the covenants therein contained in the Specifications, Drawings, and other Contract Documents required to be performed by the Contractor, in the manner and within the times provided in the Agreement, and shall fully indemnify and save harmless the Owner from all costs and damage which it may suffer by reason or failure to do so, and shall fully reimburse and repay it all outlay and expenses which it may incur in making good any default, and reasonable counsel fees incurred in the prosecution of or defense of any action arising out of or in connection with any such default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, HOWEVER, that the Surety, for value received, for itself and its successors and assigns, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the Contract Documents or to the Work to be performed thereunder, or payment thereunder before the time required therein, or waiver of any provision thereof, or assignment, subletting or transfer thereof or any part thereof, shall in any way affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration, addition to the terms of the Contract Documents or any such payment, waiver, assignment, subcontract or transfer.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.



Whenever Contractor shall be declared by Owner to be in default under the Contract, the Owner having performed Owner's obligations thereunder, the Owner shall have the right, at its option, to require the Surety to promptly proceed to remedy the default within 30 days of notice by proceeding or procuring others to proceed with completing the Agreement with its terms and conditions; and all reserves, deferred payments, and other funds provided by the Agreement to be paid to Contractor shall be paid to Surety at the same times and under the same conditions as by the terms of that Agreement such fund would have been paid to Contractor had the Agreement been performed by Contractor; and Surety shall be entitled to such funds in preference to any assignee of Principal of any adverse claimant. Notwithstanding the above, the Owner shall have the right, with the approval of the Surety which shall not be unreasonably withheld, to take over and assume completion of the Agreement and be promptly paid in cash by the Surety for the cost of such completion less the balance of the Contract price.

IN WITNESS WHEREOF, all above parties bounded together have executed this instrument this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, the name and corporate seal of each corporate party being hereto affixed and those presents duly signed by its undersigned representative, pursuant to authority of its governing body.

CONTRACTOR

\_\_\_\_\_

By: \_\_\_\_\_ (Seal)

Name: \_\_\_\_\_

Title: \_\_\_\_\_

\_\_\_\_\_  
Attest

SURETY

\_\_\_\_\_

By: \_\_\_\_\_ (Seal)

\_\_\_\_\_  
Attest

APPROVED AS TO FORM: \_\_\_\_\_, 20\_\_\_\_

\_\_\_\_\_  
OWNER

NOTE: Date of Bond shall not be prior to the date of the Agreement. If the Contractor is a partnership, all partners shall execute the Bond.

IMPORTANT: The Surety named on this Bond shall be one who is licensed to conduct business in the Commonwealth of Virginia, and named in the current list of Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies, as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department. All Bonds signed by an agent shall be accompanied by a certified copy of the authority to act for the Surety at the time of signing of this Bond.

V PAYMENT BOND

Bond No. \_\_\_\_\_

Amount: \$ \_\_\_\_\_

KNOW ALL PERSONS BY THESE PRESENTS, that \_\_\_\_\_  
\_\_\_\_\_ of \_\_\_\_\_  
\_\_\_\_\_ hereinafter called the Contractor and \_\_\_\_\_ a corporation duly  
organized and existing under and by virtue of the laws of the State \_\_\_\_\_, hereinafter called  
the Surety, and authorized to transact business within the Commonwealth of Virginia as the Surety, are held  
and firmly bound unto County of York, Virginia as Owner, in the sum of \_\_\_\_\_  
dollars (\$ \_\_\_\_\_), lawful money of the United States of America, for payment of which, well and truly  
be made to the Owner, the Contractor and the Surety bind themselves and each of their heirs, executors,  
administrators, successors, and assigns, jointly and severally, firmly by these presents as follows:

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT:

WHEREAS, the Contractor has executed and entered into a certain Agreement, hereto attached, with the  
Owner dated \_\_\_\_\_, 20\_\_\_\_, for York Point Sanitary Sewer Project, Contract 1 – Linework  
– Phase I.

NOW THEREFORE, if the Contractor shall promptly make payments to all persons, firms, subcontractors,  
and corporations furnishing materials for or performing labor in the prosecution of the Work provided for in  
the Agreement, and any authorized extension or modification thereof, including all amounts due for  
materials, lubricants, oil, gasoline, repairs on machinery, equipment, and tools consumed, used or rented in  
connection with the construction of the Work, and all insurance premiums on the Work, and for all labor  
performed in the Work, whether by Subcontractor or otherwise, then this obligation shall be void, otherwise  
to remain in full force and effect.

PROVIDED, HOWEVER, that the Surety, for value received, hereby stipulates and agrees that no change,  
extension of time, alteration, or addition to the terms of the Contract Documents or to the Work to be  
performed thereunder, shall in any way affect its obligation on this Bond, and it does hereby waive notice of  
any such change, extension of time, alteration, or addition to the terms of the Contract Documents.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the  
right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, all above parties bounded together have executed this instrument this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, the name and corporate seal of each corporate party being hereto affixed and those presents duly signed by its undersigned representative, pursuant to authority of its governing body.

CONTRACTOR

By: \_\_\_\_\_(Seal)

Name: \_\_\_\_\_

Title: \_\_\_\_\_

\_\_\_\_\_  
Attest

SURETY

\_\_\_\_\_  
By: \_\_\_\_\_(Seal)

\_\_\_\_\_  
Attest

APPROVED AS TO FORM: \_\_\_\_\_, 20\_\_\_\_\_

\_\_\_\_\_  
OWNER

NOTE: Date of Bond shall not be prior to the date of the Agreement. If the Contractor is a partnership, all partners shall execute the Bond.

IMPORTANT: The Surety named on this Bond shall be one who is licensed to conduct business in the Commonwealth of Virginia, and named in the current list of Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies, as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department. All Bonds signed by an agent shall be accompanied by a certified copy of the authority to act for the Surety at the time of signing of this Bond.

## VI NOTICE TO PROCEED

TO: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DATE: \_\_\_\_\_  
PROJECT: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

You are hereby notified to commence Work in accordance with the Agreement dated \_\_\_\_\_, 20\_\_\_\_, on or before \_\_\_\_\_, 20\_\_\_\_, and you are to substantially complete the Work within \_\_\_\_\_ Days thereafter and reach Final Completion of the Work within \_\_\_\_\_ Days thereafter. The date of Final Completion of all Work is therefore \_\_\_\_\_, 20\_\_\_\_.

Liquidated damages as stipulated in the Bid Form, in the amount of \$300.00 per Day for failure of the Contractor to substantially complete the Work by the date for Substantial Completion and \$500.00 per Day for failure to complete the Work by the date for Final Completion, will be assessed by the Owner as stated above or as may be modified by duly executed Change Orders.

OWNER: \_\_\_\_\_

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

### ACCEPTANCE OF NOTICE:

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by:

\_\_\_\_\_

this the \_\_\_\_\_ day of

\_\_\_\_\_, 20 \_\_\_\_

CONTRACTOR: \_\_\_\_\_

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

## VII CONTRACTOR'S COMPLETED PROJECT EVALUATION REPORT (OPTIONAL)

*(This form [two pages] may be used by the Contractor following the completion of the Project to provide feedback and suggestions for improvements to the Regional Construction Standards.)*

Date: \_\_\_\_\_

Contractor: \_\_\_\_\_

Project Title: \_\_\_\_\_

Project Location: \_\_\_\_\_

Owner: \_\_\_\_\_

Owner's Project Number: \_\_\_\_\_

Design Engineer: \_\_\_\_\_

Construction Engineer: \_\_\_\_\_

Contract Amount: \_\_\_\_\_ Date of Award: \_\_\_\_\_

Change Orders Amount: \_\_\_\_\_ Number of Change Orders: \_\_\_\_\_

Total Completed Contract Amount: \_\_\_\_\_

Original Completion Time: \_\_\_\_\_ Days

Actual Completion Time: \_\_\_\_\_ Days

Difference (+/-): \_\_\_\_\_ Days

Days Lost To Weather: \_\_\_\_\_ Days Allowed: \_\_\_\_\_

Days Lost To Conflicts: \_\_\_\_\_ Days Allowed: \_\_\_\_\_

cc: **HRPDC**  
**(Locality)**

## Summation of Problems with Regional Construction Standards

Section(s)

## Division 1 - General Provisions

## Division 2 - Products and Materials

## Division 3 - Roadway Construction

## Division 4 - Miscellaneous

## Division 5 - Incidental Construction

## Division 6 - Landscaping

## Division 7 - Traffic Control Devices

## Division 8 - Water and Wastewater Utilities

Sheet No./ Detail Number

## Standard Details

Describe the problem in detail, proposed resolution, actual resolution, recommended changes, etc.

*(Use additional pages if necessary)*

## End of Section

## **SECTION 104**

### **SCOPE OF WORK**

#### **I INTENT OF AGREEMENT**

- 1.1. The intent of the Agreement is to provide for completion of the Work specified therein.
- 1.2. If, during the performance of the Work, the Contractor finds a conflict, error or discrepancy in the Contract Documents, the Contractor shall so report to the Owner in writing at once and before proceeding with the Work affected thereby, except in the case of emergency or public safety, shall obtain a written interpretation or clarification from the Owner however, the Contractor shall not be liable to the Owner for failure to report any conflict, error or discrepancy in the Contract Documents unless the Contractor has actual knowledge thereof or should reasonably have known thereof.

#### **II AMENDING AND SUPPLEMENTING CONTRACT DOCUMENTS**

- 2.1. The Contract Documents may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof by a Change or Field Order pursuant to Section 109 II.

#### **III EXPLORATIONS AND REPORTS**

- 3.1. Reference is made to the Special Provisions for identification of those reports of explorations and tests of subsurface conditions at the site that have been utilized by the Owner in preparation of the Contract Documents.
- 3.2. The Contractor shall visit the site of the proposed Work and make such explorations as the Contractor determines to be necessary.

#### **IV UNDERGROUND FACILITIES**

- 4.1. The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the site is based on information and data furnished to the Owner or Engineer by the owners of such Underground Facilities or by others.
- 4.2. The Owner and Engineer shall not be responsible for the accuracy or completeness of any such information and data. The Contractor shall have full responsibility for reviewing and checking all such information and data, for locating all Underground Facilities shown or indicated in the Contract Documents, for coordination of the Work with the owner's of such Underground Facilities during construction, for the safety and protection of said facilities, and repairing any damage thereto resulting from the Work, the cost of all of which will be considered as having been included in the Contract Base Bid.
- 4.3. If an Underground Facility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the Contract Documents and which the Contractor could not reasonably have been

expected to be aware of, the Contractor shall, promptly after becoming aware thereof and before performing any Work affected thereby, identify and immediately notify the owner of such Underground Facility and give written Notice thereof to that owner and to the Owner. The Owner will promptly review the Underground Facility to determine the extent to which the Contract Documents should be modified to reflect and document the consequences of the existence of the Underground Facility, and the Contract Documents will be amended or supplemented to the extent necessary. During such time the Contractor shall be responsible for the safety and protection of any such Underground Facility which is in service or which is to be placed in service. The Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, to the extent that they are attributable to the existence of any Underground Facility in service or which is to be placed in service, which directly and unavoidably impacts the installation of the Work, that was not shown or indicated in the Contract Documents and which the Contractor could not reasonably have been expected to be aware of.

- 4.4. If the existence of an Underground Facility described above unavoidably impacts the installation of the Work, the Contractor shall, to the fullest extent possible, continue the Work on other portions of the site. All delays must be shown by the Contractor to be directly attributable to said unforeseen conditions and limited to the time actually occasioned by such unforeseen conditions, and that the Contractor has prosecuted the other portions of the Work to the fullest extent possible.
- 4.5 The Contractor shall comply with the Underground Utility Damage Prevention Act, Section 56-265.14 through 56-265.32, Code of Virginia of 1950, as enacted and amended, and shall be responsible for notifying the owners of utilities and requesting the locating and marking of all underground facilities before beginning any excavation.
- 4.6 The Contractor should be aware that in some instances buried cables, gas lines, sewer lines, and water lines 2-inches and smaller in diameter may have to be excavated by hand and slightly relocated to facilitate construction of the Work under this Agreement. This shall be considered incidental to the Work, and the Contractor will not be eligible for additional compensation.

## **V SUBSURFACE CONDITIONS**

- 5.1. The Contractor shall promptly, and if possible, before such conditions are disturbed, except in the event of an emergency, notify the Owner by written Notice of:
  - A. subsurface or latent physical conditions at the site differing materially from those indicated in the Contract Documents; or
  - B. unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in Work of the character provided for in the Contract Documents.
- 5.2. The Owner shall promptly investigate the conditions, and if it is confirmed that such conditions do so materially differ and cause an increase or decrease in the cost of, or in the time required for, performance of the Work, an equitable adjustment shall be made and the Agreement shall be modified by a Change Order. Any claim of the Contractor for adjustment hereunder shall not be allowed unless the Contractor has given the required written Notice; provided that the Owner may, if the facts so justify, consider and adjust any such claims asserted before the date of final payment.



- 5.3 All required written Notices shall be submitted to the Owner within 20 Days after occurrence of the event giving rise to such claim, or within 20 Days after the claimant recognizes the condition, whichever is later.

## **VI SITE SECURITY**

- 6.1. The Contractor shall be responsible for the security and safety of all project facilities including, but not limited to, all equipment, materials, site structures, and construction thereon. All security measures deemed necessary by the Contractor to comply with this requirement shall be at the Contractor's expense at no additional cost to the Owner. The Contractor shall be responsible for all site security until final acceptance of the Work by the Owner.

## **VII CLEAN-UP, DISPOSAL AND RESTORATION**

- 7.1. The Contractor shall maintain the site of the project in an orderly and clean condition and shall at intervals of no more than three (3) days and at its expense, remove and legally dispose of accumulations of rubbish or refuse materials, surplus concrete, mortar and excavated materials not required or suitable for backfill from public and private property and rights-of-way. Washings from concrete mixers or mixing boxes shall not be deposited directly or indirectly in the drainage or sewer system or on paved streets. The Contractor shall keep the site, inclusive of vehicular and pedestrian traffic routes through the site, free of dirt and dust by periodic blading, power brooming, watering or other approved means. Road surfaces adjacent to the work area shall be cleaned of soil with mechanical brooms or other approved methods at the end of each working day. Road shoulders and driveways shall be stabilized so as to allow traffic flow (including mail and paper delivery vehicles, school buses and emergency vehicles) by the end of each working day.
- 7.2. The Contractor shall confine all equipment, the storage of materials and equipment, and the operations of workmen to areas permitted by law, ordinances, permits, or the requirements of the Contract Documents, and shall not unreasonably encumber the premises with materials or equipment.
- 7.3. The Contractor shall not load nor permit any part of any structure to be loaded with weights that will endanger the structure, nor shall any part of the work be subjected to stresses or pressures that will endanger it.
- 7.4. Upon completion and before final acceptance of the Work performed under the Agreement, the Contractor shall remove and legally dispose of all rubbish, surplus or discarded materials, false work, forms, temporary structures, field offices, signs, temporary erosion and siltation control measures, and equipment and machinery, and shall leave the site and ground occupied in connection with the performance of the Work in the conditions existing before the Work was started, to the satisfaction of the Owner.
- 7.5. All waste materials, including but not limited to excavated materials, demolished pavement, arboreal (landscaping) waste and other debris, that are not suitable for Project related purposes (e.g., backfill) or are surplus to the needs of the Project, both as determined by the Owner, shall become the property of the Contractor. The Contractor shall dispose of all such material in accordance with his accepted Disposal Plan, as specified in Section 104-7.5.4A below, at no additional cost to the Owner.
- A. The Contractor shall submit a Disposal Plan for review and acceptance by the Owner prior to performing any Work that might generate waste materials. The plan shall include a complete description of the materials that are expected to be encountered and their proposed disposal

site(s). The Contractor may change his Disposal Plan only by written notice to the Owner. The acceptance of a plan and/or any related notice to the Owner must be evidenced by a written response from the Owner.

- B. The Contractor shall insure that all permits related to his disposal operations have been obtained, and the Contractor shall comply with all requirements of those permits. The Contractor shall show evidence that all required permits have been obtained for all disposal sites by submitting a copy of all such permits to the Owner as part of the Contractor's Disposal Plan.

End of Section

## SECTION 105

### CONTROL OF WORK

#### I REUSE OF CONTRACT DOCUMENTS

- 1.1. Neither the Contractor nor any Subcontractor or Supplier or other person or organization performing or furnishing any of the Work under a direct or indirect contract with the Owner shall have or acquire any title to or ownership rights in any of the Contract Documents (or copies thereof) prepared by or bearing the seal of the Engineer; and, they shall not reuse any of the Contract Documents on extensions of the Project or any other project without written consent of the Owner and Engineer and specific written verification by the Owner.

#### II COPIES OF CONTRACT DOCUMENTS

- 2.1. The Owner will furnish to the Contractor up to five (5) copies of the Contract Documents as are reasonably necessary for the execution of the Work. Additional copies will be furnished, upon request, at the cost of reproduction.

#### III CONTRACT DOCUMENTS

- 3.1. The Contract Documents will govern the Work set forth therein.
- 3.2. In cases of conflicts, Special Provisions shall govern over the *Regional Construction Standards*; Specifications shall govern over Drawings; figure dimensions shall govern over scaled dimensions; and, detailed Drawings shall govern over general Drawings; unless, the interpretation would result in a violation of any law or regulation applicable to the performance of the Work. ***Standard Details contained in the Drawings shall govern over corresponding Standard Details contained in the Regional Construction Standards.***
- 3.3. The Contractor shall, upon discovering any error, omission, or discrepancy in the Contract Documents, immediately notify the Owner.

#### IV SHOP DRAWINGS AND SUBMITTALS

- 4.1. The Contractor shall compile a complete and comprehensive schedule of all the submittals anticipated to be made during the progress of the Work. The schedule shall include a list of each type of item for which the Contractor's drawings, Shop Drawings, material affidavits, material samples, ***certificates, warranties, guarantees, operations and maintenance manuals, testing and adjustment reports, plans, schedules,*** or other types of submittals ~~are~~ required ***in the Contract Documents.***
- 4.2. Prior to each submittal, the Contractor shall carefully review and coordinate all aspects of each item or sample submitted with any other item or sample being submitted and verify that each item and sample adheres in all respects with the requirements of the Contract Documents.
- 4.3. The Contractor shall certify that all materials used in the Work are in complete compliance with all specified provisions. Certification shall not be construed as relieving the Contractor from its

responsibility of furnishing satisfactory materials. At the time of each submission, the Contractor shall in writing call the Owner's attention to any deviations that the Shop Drawings or samples may have from the requirements of the Contract Documents. ***When by making a submission for approval, the Contractor shall be deemed to have certified that he has checked the items in the shop drawings before submitting them and that he is satisfied that, in their present state, they not only meet the requirements of the Contract Documents, but will present no difficulties in the performance and completion of the work. The Contractor shall clearly note his approval on the shop drawings prior to submission to the Owner. Failure of the Contractor to note his approval will be reason for the Owner to return such submission to the Contractor unchecked.***

1. ***If it appears to Owner that the shop drawings submitted by the Contractor have not been properly checked, even though the Contractor's approval has been noted thereon, Owner may return such submission to the Contractor unchecked.***
  2. ***Markings, written or otherwise, made by the Contractor or by his suppliers or manufacturers must be made on the Submittal in a color other than red. RED is reserved for the exclusive use of the reviewer in marking Submittals.***
- 4.4. The Contractor shall submit four (4) copies, plus the number of copies desired to be returned, of Shop Drawings or submittals that are required by Section 105 or the Special Provisions. Each submission shall be accompanied by letter of transmittal in duplicate, listing the contents of the submission and identifying each item by reference to specification section or Drawing. The data shown on the Shop Drawings shall be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to show the Owner the materials and equipment the Contractor proposes to provide.
  - 4.5. The Contractor shall also submit samples to the Owner for review and approval in accordance with the accepted schedule of submittals. Each sample shall be identified clearly as to material, supplier, pertinent data such as catalog numbers and the use for which intended and otherwise as the Owner may require for review. The review of a separate item or sample will not indicate approval of any assembly in which the separate item or sample functions.
  - 4.6. The Contractor is responsible for submitting all Shop Drawings and schedules in a timely manner to avoid delaying the Work. The Owner shall within 14 days after receipt, return Shop Drawings and schedules to the Contractor indicating approval or disapproval.
  - 4.7. Review and/or approval of Shop Drawings will be for general conformance with the Contract Documents and shall not relieve the Contractor from the responsibility of furnishing materials and equipment of proper dimension, size, quality, quantity, and all performance characteristics to efficiently perform the requirements and intent of the Contract Documents. Approval shall not be construed as permitting any departure from the Project requirements, authorization of any increase in price, or approval of departures from additional details or instructions previously furnished by the Owner.
  - 4.8. Before submitting each Shop Drawing or sample, the Contractor shall have determined and verified:
    - A. All field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar information with respect thereto;
    - B. All materials with respect to the intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the work; and

- C. All information relative to the Contractor's sole responsibility in respect of means, methods, techniques, sequences and procedures of construction and safety precautions and progress incident thereto.
- 4.9. Each Shop Drawing and sample submission shall bear a stamp or specific written indication that the Contractor has satisfied Contractor's obligation under the Contract Documents with respect to the Contractor's review and approval of that submission. The Contractor's Shop Drawing stamp shall be as follows (or as otherwise approved by the Owner and Engineer):

<p>(Owner's Name)</p> <p>(Project Name)</p> <p>Shop Drawing No.: _____</p> <p>Specification Section: _____</p> <p><i>With respect to this Shop Drawing or Sample, I have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar data with respect thereto and reviewed or coordinated this Shop Drawing or Sample with other Shop Drawings and samples and with the requirements of the Work and the Contract Documents.</i></p> <p>_____ <i>No variation from Contract Documents</i></p> <p>_____ <i>Variation from Contract Documents as shown</i></p> <p>(Contractor's Name and Address)</p> <p>By: _____</p> <p>Date: _____</p>
---

- 4.10. The Engineer will review and approve or disapprove or return as incomplete Shop Drawings and samples in accordance with the schedule of submittals submissions accepted by the Engineer. The Engineer's review and approval or disapproval will not extend to means, methods, techniques, sequences or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The Contractor shall make corrections required by the Engineer, and shall return the requested number of copies of Shop Drawings and samples for review and approval. The Contractor shall direct specific attention in writing to revisions other than the corrections called for by the Engineer on previous submittals. Upon approval, two marked copies will be returned to the Contractor.
- 4.11. No progress payments will be made to the Contractor until the schedules are submitted to and acceptable to the Engineer. The progress schedule shall be acceptable to the Engineer as being the Contractor's schedule for the orderly progression of the Work to completion within any specified Contract Times, but such acceptance will neither impose on the Engineer responsibility for the

sequencing, scheduling or progress of the Work nor interfere with or relieve the Contractor from the Contractor's full responsibility therefor.

- 4.12. The Engineer will record time required by the Engineer or Engineer's consultants for excessive submittal review occasioned by the Contractor's re-submission, in excess of one re-submission of a required submittal, caused by unverified, unchecked or un-reviewed, incomplete, inaccurate or erroneous, or nonconforming submittals. The Engineer's costs will be an estimated average billing rate for labor plus related expenses.
- 4.13. Within ten (10) days after the Effective Date of the Agreement, the Contractor shall submit to the Engineer for approval a schedule listing the manufacturer of the items of equipment and materials proposed for the construction. Following approval of the schedule, no changes in material or equipment from those listed will be allowed except in unusual or extenuating circumstances. When such circumstances arise, the Contractor shall request, in writing, the Owner's approval of the proposed change, stating the circumstances necessitating such a change. The intent of this schedule is to name the manufacturers of material specified by a product standard and to designate which manufacturer will be used when more than one has been named for an item. The schedule shall not be interpreted as allowing any change from base Bid items or those substitute items offered with the Bid and accepted in the Agreement.
- 4.14. *Submittals shall be made in logical groupings representing all submittals from a technical specification section and/or, where appropriate, related section(s). Shop drawing submissions lacking all required submittals under a technical specification section(s) will be returned without review.*
- 4.15. *The approval of shop drawings shall not relieve the Contractor from the responsibility for proper fittings and construction of the Work nor from furnishing materials and work required by the Contract which may not be indicated on the shop drawings when approved.*
- 4.16. *Where a shop drawing or sample is required by the Specifications, and related work is performed prior to the Owner's review and approval of the pertinent submission, such work will be the sole responsibility of the Contractor. Owner shall have the right to inspect any such work, but failure of Owner to inspect such work shall not be deemed an acceptance by Owner.*
- 4.17. *In proposing alternate materials or construction methods or in requesting Owner determination of alternate materials, submittals must clearly demonstrate that the proposed alternate items clearly meet, in all respects, the requirements of the Contract Documents, design intent of the Project, and offer finished product superiority and/or cost savings to the Owner. The burden of proof in all such determinations is up to the Contractor and the Owner's determination is un-reviewable and final. All such proposals count as submittals in determining the cost of additional reviews in accordance with paragraph 4.12 above.*
- 4.18. *Manufacture's Certificates*
- A. *The Contractor shall furnish at the time of submitting shop drawings the manufacturer's certificates for items of equipment and products in the various sections of these Specifications.*
- B. *The manufacturer's warranty and certification submitted for equipment, a product, or component of a product shall indicate that the manufacturer has examined the Contract Documents and the equipment, product or component of a product provided will meet the*

*performance criteria and conforms in all respects to the requirements of the Contract Documents.*

- C. *A statement originating from the Contractor, or any of his Subcontractors, suppliers, or any other agent, which merely indicates that a particular item of equipment, product, or component of a product, meets the requirements of the Contract Documents, shall not be considered a certificate. Any such submittal made in this manner will not be approved and the corresponding equipment, product, or component of a product, shall not finally accepted.*

## V RECORD DRAWINGS

- 5.1. The Contractor shall keep one record copy of all Special Provisions, Specifications, Drawings, Addenda, Written Amendments, Change Orders, Shop Drawings, Owner-approved submittals, and samples at the site in good order and annotated to show all changes made during the construction process. These documents shall be available to the Owner for examination and shall be submitted to the Owner upon completion of the Work. As-built information (including dimensions, materials, existing utilities) shall also be included on the Drawings. Progress payments may be withheld for failure to keep neat, accurate and complete record drawings.
- 5.2. The Contractor shall include any field changes, deviations from the Drawings due both to field conditions and Change Orders.
- 5.3. Record information for projects shall include the following as a minimum:
- A. Size, horizontal and vertical location of all existing utilities uncovered during the course of the work. This shall include telephone cables and conduits, TV cables and conduits, electrical cables and conduits, gas lines, water line, sewer force mains, sanitary sewers, storm sewers and the like.
  - B. Horizontal and vertical location of the water, force main, sanitary and storm sewer installed at every 100-foot station, at interconnections, and at fittings, tees, bends and offsets. The frequency and location of survey shots will match the proposed grade elevations shown on the Drawings.
  - C. Location of lines plugged or capped, blowoffs, and air vents.
  - D. Location of all restraining devices used; for example, thrust blocks, retainer glands, tie rods, etc.
  - E. Location of all valves, ends of all lines and other fittings shall be accurately located by triangulation from two permanent structures, which will be visible on the ground surface.
  - F. Location and size of all taps and service line connections made, including corporation stops (if any) used for testing purposes.
  - G. Size (if greater than ¾"), material, depth and location of both ends of the water service lines are required.
  - H. Rim elevations of manholes and invert elevations of pipes entering and exiting the manhole.

- I. Size, material, depth and location of sewer laterals including:
    - 1. Measurements taken from the nearest downstream manhole, then measure over perpendicular from that point on the main to the end of the lateral. All measurements are taken from the center of the manhole cover.
    - 2. If lateral comes out of a manhole in a cul-de-sac; triangulation from that manhole will be required.
    - 3. Measured depth from the finished grade at the end of the lateral.
  - J. Information required for public storm drain systems:
    - 1. Size, material and location of all storm sewer lines.
    - 2. Elevations shall be provided for all ditch, pipe and structure inverts and rims.
  - K. *Size, material, depth and location of all vacuum sewer mains, laterals, cleanouts, valves, access points, lifts, offsets, fittings, and pits, including:*
    - 1. *Station and swing-ties to two (2) fixed and permanent objects, pipe size, vertical lift and upstream and downstream invert elevations of all vacuum lifts in vacuum mains and laterals.*
    - 2. *Size, length and slope of vacuum mains and laterals between lifts including invert elevations into and out of lifts.*
    - 3. *Station and distance to edge of building of all fittings, wyes, access points, division valves, and end of line markers of vacuum mains and laterals.*
  - L. *As-built measurement, location, equipment, material and size changes to the information shown on the Drawings for the vacuum station.*
  - M. *Coordinates on all facilities designed and identified with coordinates on the Drawings County to provide Control Network data and drawings files for stakeout.*
- 5.4 The Record Drawings shall include the following minimum accuracy for survey measurements and field measurements.
- A. Horizontal accuracy:
    - 1. Both surface and subsurface gravity sanitary sewer systems shall be measured in a survey to +/- 1.0 foot at the structure location.
    - 2. Both surface and subsurface pressure systems shall be measured in a survey to +/- 1.0 foot at the structure location.
    - 3. Curb/curb and gutter shall be measured in a survey to +/- 1.0 foot at high points, low points, curb returns, and various other positions following good engineering, construction and surveying practices.



4. Storm Water Management Facilities (SWMF) shall be measured in a survey to +/- 1.0 foot, including the top of bank, bottom of bank, edge of water, pipes, structures, and setback distances to property lines and/or right-of-way lines and any unusual feature of each SWMF.
5. Utility system components including, but not limited to, fire hydrants, meter vaults, meter boxes, water services, corporation stops, fittings, thrust restraint, laterals, cleanouts, valves, blowoff assemblies, air vent assemblies, water sampling stations, etc. shall be measured in a survey to +/- 1.0 foot.
6. Project landscaping shall be measured in a survey to +/- 1.0 foot. Only large significant features, such as trees, will be surveyed. The species and caliper (size) shall be noted.
7. Street signs and light poles shall be measured in a survey to +/- 1.0 foot.

B. Vertical accuracy:

	Survey Accuracy	Field Measurement
Manhole Rim	+/- 0.01 ft.	
Manhole Invert	+/- 0.01 ft.	
Gravity Sewer Slope	+/- 0.02%	
Valve Depth	+/- 0.1 ft.	
Pressure/vacuum systems	+/-0.05 ft.	
SWMF	+/- 0.01 ft.	
Curb/curb and gutter	+/- 0.01 ft.	
Offset		+/- 1.0 ft.
Lateral Depth		+/- 0.25 ft.

## VI ACCESS TO PROJECT

- 6.1. The Owner, the Owner's Representatives, the Engineer, testing agencies and governmental agencies with jurisdictional interests shall have access to the Project at all times for their observations, inspecting, and testing. The Contractor shall provide proper and safe conditions for such access.

## VII SURVEYS AND REFERENCE POINTS

- 7.1. The Owner shall furnish all necessary Drawings showing property lines and/or easements and the location of the Work. The Contractor shall provide a land surveyor licensed in the Commonwealth of Virginia to execute the Work in accordance with the Contract Documents and shall be responsible for the accuracy of this Work.
- 7.2. The Owner has established or will establish such general reference and control points and benchmarks on or about the Project site as will enable the Contractor to proceed with the Work. Prior to issuance of the Notice to Proceed, if the Contractor finds that any previously established reference points have been destroyed or misplaced, the Contractor shall promptly notify the Owner, and the Owner shall replace such general reference points and benchmarks at the Owner's expense.

- 7.3. The Contractor shall protect and preserve the established control points, bench marks and monuments and shall make no changes in locations without the written approval of the Owner. Any of these which may be lost or destroyed or which require shifting because of necessary changes in grades or locations shall, subject to prior approval of the Owner, be replaced and accurately located by the Contractor, at no expense to the Owner.

## VIII WORKING HOURS

- 8.1. Normal working hours shall be 7:00 a.m. to 5:00 p.m., Monday through Friday, except that Work shall not start any earlier than one-half hour after sunrise or continue beyond one-half hour prior to sunset. If the Contractor desires to perform Work outside the normal working hours, ~~on Holidays~~, or on ~~weekends~~ **Saturdays**, the Contractor shall request permission, in writing, 48-hours in advance to allow arrangements to be made. The Contractor may be charged an inspection fee by the Owner if such work is approved. Where the Owner specifically directs the Contractor to work outside of normal working hours, no inspection fee will be imposed. The Owner may refuse the Contractor permission to work outside the normal working hours. The Contractor shall make reasonable efforts to avoid undue noise during the night and on weekends, including, but not limited to, fireproof covering necessary to dampen excessive noise from engines or pumps which operate before 7:00 a.m. and after 9:00 p.m., if it is necessary to work at those times.
- 8.2. The Contractor shall designate a representative and furnish a telephone number at which the representative may be contacted at any time after working hours. This representative shall be empowered and authorized to provide such personnel and equipment as may be required to remedy emergency situations that may develop after normal working hours, or on weekends and holidays.
- 8.3. The Contractor shall receive approval of the Owner, in advance, of any work to be performed on Holidays. The Owner reserves the right to deny permission to work on Sundays and/or Holidays without cause.

Holidays are as listed below:

New Years Day	1 <sup>st</sup> day of January
Martin Luther King's Birthday	3 <sup>rd</sup> Monday in January
President's Day	3 <sup>rd</sup> Monday in February
Memorial Day	Last Monday in May
Independence Day	4 <sup>th</sup> day in July
Labor Day	1 <sup>st</sup> Monday in September
<b>Yorktown Day</b>	<b>19<sup>th</sup> day of October</b>
Veteran's Day	11 <sup>th</sup> day of November
Thanksgiving Day	4 <sup>th</sup> Thursday in November
Friday after 4 <sup>th</sup> Thursday in November	4 <sup>th</sup> Friday in November
Christmas Eve	24 <sup>th</sup> day of December
Christmas Day	25 <sup>th</sup> day of December
<b>New Year's Eve</b>	<b>31<sup>st</sup> day of December</b>

If January 1, July 4, **Yorktown Day**, Veterans Day or Christmas fall on a Sunday, the following Monday shall be considered the Holiday. If these dates fall on a Saturday, the previous Friday shall be considered the Holiday. *If any part of a two-day holiday (i.e. Christmas Eve and Christmas Day,*

*New Year's Eve and New Year's Day) falls on a weekend day, the observance of the holidays shall be scheduled at the Owner's discretion in such a way as to result in a four-day weekend.*

The Contractor's attention is called to Section 109-1.5.C.1.d. regarding Owner compensation by the Contractor for overtime work performed outside normal working hours.

## **IX PROJECT COORDINATION**

### **9.1 Coordination with Owner**

- A. The Contractor shall coordinate all construction activities with the Owner and shall obtain the Owner's approval as to schedule of Work, permits, temporary work, and traffic control.
- B. Progress meetings shall be held monthly on a date to be set by the Owner. The Contractor shall be present at all progress meetings. If progress is not made as scheduled, or if the Owner desires to discuss revised progress schedules or the quality of workmanship or other aspects of the work, additional progress meetings can be required.
- C. The Owner may construct or reconstruct any utility service in the highway or street or grant a permit for the same at any time. The Contractor shall not be entitled to any damages occasioned thereby other than a consideration of an extension of time.
- D. When authorized by the Owner, the Contractor shall allow any person, firm, or corporation to make an opening within the limits of the Project upon presentation of a duly executed permit from the Owner. When directed by the Owner, the Contractor shall satisfactorily repair portions of the Work disturbed by the openings. The necessary Work will be paid for as extra Work in accordance with these specifications and shall be subject to the same conditions as the original Work performed.

### **9.2 Coordination with Utilities**

- A. The Owner and Contractor agree that disruption to public services shall be avoided whenever possible and minimized when it is not avoidable. In cases where the disruption of existing facilities could adversely impact public service delivery, acceptable duration(s) and time(s) of the outages shall be coordinated between the Contractor and Owner, so as to explicitly minimize disruption to public service delivery.
- B. Before the initiation of any excavation, the Contractor shall locate all existing utilities, culverts, and other structures. Work shall be coordinated with affected utility companies. Prior to excavation, the Contractor shall contact MISS UTILITY at (800) 552-7001 and comply with all MISS UTILITY requirements.
- C. All existing utilities, both public and private (including sewer, gas, water, electrical services, etc.), shall be protected and their operation shall be maintained throughout the course of the Work. Any temporary shutdown of an existing service shall be arranged by the Contractor between the Contractor and the responsible agency. The Contractor shall assume full responsibility and defend and hold the Owner harmless from the result of any damage that may occur as a result of the Contractor's activities.

- D. If any utility service is interrupted as a result of accidental breakage or of being exposed or unsupported, the Contractor shall promptly notify the proper authority and shall cooperate with the authority in the restoration of service. If utility service is interrupted, repair work shall be continuous until service is restored. The Contractor shall be responsible for any damage to utilities that are attributable to his neglect or methods of performing the work.
- E. The Owner shall provide Utility companies with copies of the construction plans and or scope of work prior to construction. If requested by the Owner, the Contractor shall provide each affected utility company with a copy of the proposed schedule of progress prior to commencing work.
- F. Existing facilities (such as water and sewer valves) shall be operated only by the facility owner or under the direct supervision of the facility owner's personnel. The Contractor shall inform the owner at least 48-hours in advance of the need for the operation of existing facilities.
- G. At points where the Contractor's operations are adjacent to the properties of any utility, including railroads, and damage to which might result in considerable expense, loss, or inconvenience, Work shall not commence until arrangements necessary for the protection thereof have been completed.
- H. The Contractor shall cooperate with owners of utilities so that location, removal and adjustment operations may progress in a reasonable manner; duplication of adjustment work may be reduced to a minimum; and, services rendered by those parties will not be unnecessarily interrupted.
- I. The Contractor should be aware that in some instances buried cables, gas lines, water lines, etc., two inches and smaller in diameter may have to be excavated by hand and slightly relocated to facilitate construction of the Work under this contract. This shall be considered incidental to the Work, and shall be performed at no additional cost to the Owner.
- J. Should the location of any pipe or conduit greater than two-inches in diameter, pole, or other structures, above or below the ground be such that in the opinion of the Owner or his representative its removal, realignment, or change will be required due to work to be performed under this Contract, the removal, realignment, or change will be done as a Change Order, or will be done by the Owner of the obstructions, without cost to the Contractor. The Contractor shall maintain at his own expense the structures until such removal and before and after such realignment or change. The Contractor shall not be entitled to any claim for damages or extra compensation because of the presence of said structure, or because of any delay in the removal or relocation of the same.

## **X SUPERVISION**

- 10.1. The Contractor shall supervise and direct the Work, and shall be solely responsible for the means, methods, techniques, sequences and procedures of construction. The Contractor shall employ and maintain on the Project a qualified supervisor who shall have been designated in writing by the Contractor as the Contractor's representative at the site. The supervisor shall have full authority to act on behalf of the Contractor and all communications given to the supervisor shall be the same as if mailed to the business address of the Contractor. The supervisor or a designated representative shall be present on the site at all times as required to perform adequate supervision and coordination of the

Work. The Contractor shall notify the Owner in writing prior to any change of supervisor, and receive the Owner's approval for the replacement.

- 10.2. Upon notification to the Contractor, the Owner reserves the right to suspend the Work until such time as a supervisor satisfactory to the Owner is assigned to the project. Contract Time shall not be extended for such suspension nor shall the Contractor be entitled to any additional payment of any kind whatsoever as a result of such suspended work.
- 10.3. Any employee of the Contractor or Subcontractor who is deemed unsuitable may be removed from the job site by the Owner, provided that Written Notice and just cause is given to the Contractor. Said employee shall be removed immediately upon receipt of said Notice.

## **XI UNCOVERING WORK**

- 11.1. If any work has been covered or concealed without the Owner's approval prior to being covered or concealed, the Owner may request to see such work and it shall be exposed by the Contractor. The Contractor shall pay the cost of opening or uncovering and replacement and shall, in addition, at no cost to the Owner, make the necessary corrections to bring the work into accord with the Contract Documents.
- 11.2. Uncovering work shall be at the Contractor's expense unless the Contractor has given the Owner timely notice of the Contractor's intention to cover the same and the Owner has not acted with reasonable promptness in response to such notice.
- 11.3. If the Owner considers it necessary or advisable that covered Work previously approved be re-inspected or tested by others, the Contractor, at the Owner's request, shall uncover, expose or otherwise make available for observation, inspection or testing as the Owner may require, that portion of the Work in question, furnishing all necessary labor, materials, tools, and equipment. If it is found that such Work is defective, the Contractor shall bear all the expenses of such uncovering, exposure, observation inspection and testing and of satisfactory reconstruction. If, however, such Work is not found to be defective, the Contractor will be allowed an increase in the Contract Price or an extension of the Contract Time or both directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction and an appropriate Change Order shall be issued.

## **XII REMOVAL OF UNACCEPTABLE WORK**

- 12.1. All Work that does not conform to the requirements of the Contract Documents shall be unacceptable.
- 12.2. The Contractor shall remove or correct all unacceptable and defective Work or materials. The replacement of Work and materials shall conform to the Contract Documents or be in a manner acceptable to the Owner. The Contractor shall bear all costs of such correction and/or removal and replacement.
- 12.3. Work done contrary to or regardless of the instructions of the Owner, Work done beyond the lines shown or as directed, except as herein provided, or any extra Work done without authority, will be considered unauthorized and will not be paid for under the provisions of the Agreement. Work so done may be ordered removed or replaced at no cost to the Owner.

- 12.4 If the Work is defective, or the Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents, the Owner may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the Owner to stop the Work shall not give rise to any duty on the part of the Owner to exercise this right for the benefit of the Contractor or any surety or other party. If the Contractor does not remedy, remove, or replace the rejected or condemned Work as instructed by the Owner within the time period stated by the Owner but in no case to exceed 30 Days after receiving written Notice, such remedy, removal, or replacement may be accomplished by the Owner at the Contractor's expense.

### **XIII SUBSTANTIAL COMPLETION**

- 13.1. Prior to Final Payment, but following completion of all required tests and inspections, the Contractor may request in writing that the Owner certify that the entire Project or any phase of the Project is Substantially Complete and request the Owner issue a Certificate of Substantial Completion. Within fourteen (14) working days the Owner will conduct an inspection of the Project with the Contractor and either issue a Certificate of Substantial Completion or notify the Contractor in writing of the incomplete items. The Certificate and attachments shall include the following:
- A. A listing of responsibilities for the security, operation, safety, maintenance, utilities and insurance on the substantially completed portion;
  - B. A tentative list of items to be completed or corrected prior to final payment; and,
  - C. The maximum time for items to be completed or corrected prior to final payment.
- 13.2. The Owner shall have the right to exclude the Contractor from the Project or phase of the Work certified to be Substantially Complete; however, the Owner will allow the Contractor reasonable access to complete or correct the Work.

### **XIV USE OF COMPLETED PORTIONS**

- 14.1. The Owner shall have the right to take possession of and use any completed or partially completed portions of the Work, notwithstanding that the time for completing the entire Work or such portions may not have expired, but such taking possession and use shall not be deemed an acceptance of any Work not completed in accordance with the Contract Documents. If such prior use increases the cost of or delays the Work, the Contractor shall be entitled to such extra compensation or extension of time or both as the Owner and the Contractor may agree.

### **XV FINAL INSPECTION**

- 15.1. Upon receiving written Notice from the Contractor that the entire Work or an agreed upon portion is complete, the Owner will make a final inspection with the Contractor, and will notify the Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. The Contractor shall immediately take such measures as are necessary to complete such work or remedy such deficiencies.

- 15.2. This procedure shall be repeated until all items are corrected to the satisfaction of the Owner. Only written notification to the Contractor from the Owner will constitute final acceptance of any part of the Work under the Agreement.

## **XVI CLAIMS**

- 16.1. All claims, disputes, demands and other matters in question arising out of or relating to the Contract Documents, except for claims which have been waived by the Contractor's acceptance of final payment, will be addressed in accordance with the provisions of the Virginia Public Procurement Act and as stated herein; provided, however, the provisions of Section 2.2-4366 of that Act will not be applicable without the separate express written consent of the Owner.
- 16.2. Early or prior knowledge by the Owner of an existing or impending claim for damages could alter the plans, scheduling, or other action of the Owner or result in mitigation or elimination of the effect of the act objected to by the Contractor. Therefore, a written statement describing the act of omission or commission by the Owner or its agents that allegedly caused damage to the Contractor and the nature of the claimed damage shall be submitted to the Owner at the time of occurrence or beginning of the Work upon which the claim and subsequent action are based. If such damage is deemed certain in the opinion of the Contractor to result from his acting on an order from the Owner, he shall immediately take written exception to the order. Submission of a notice of claim as specified shall be mandatory. Failure to submit such notice shall be a conclusive waiver to such claim for damages by the Contractor. An oral notice or statement will not be sufficient nor will a notice or statement after the event.

If the Contractor's claim contains data that cannot be verified by the Owner's records, the data shall be subject to a complete audit by the Owner or its authorized representative if they are to be used as a basis for claim settlement.

If the Contractor wishes to make claim for an increase in the Contract Price or Contract Time, he shall submit all supporting data to the Owner and Engineer within twenty (20) Days from the time of initial occurrence *of the event giving rise to the claim*. Failure to submit such data within twenty (20) Days shall be a conclusive waiver to such claim by the Contractor.

- 16.3. Claims, disputes, and other matters relating to the acceptability of the Work or the interpretation of the requirements of the Contract Documents pertaining to the performance and furnishing of the Work and claims in respect to changes in the Contract Price or Contract times will be referred initially to the Engineer in writing with a request for a formal decision in accordance with this paragraph. Written Notice of each such claim, dispute or other matter shall be delivered by the Contractor to the Engineer and the Owner promptly (but in no event later than twenty (20) days) after the start of the occurrence or event giving rise thereto, and written supporting data shall be submitted to the Engineer and the Owner promptly, (but not later than twenty (20) days) after the start of such occurrence or event and monthly thereafter for continuing events unless the Engineer allows an additional period of time for the submission of additional accurate data in support of such claim, dispute or other matter. The Owner shall submit any response to the Engineer and the Contractor within ten (10) days after receipt of the Contractor's last submittal (unless the Engineer allows additional time).

The Engineer shall render a written decision within twenty (20) days of receipt of the Owner's response. The Engineer's written decision on such claim, dispute, or other matter shall be final and binding upon the Owner and Contractor unless, within twenty (20) days after issuance of the

Engineer's written decision, either party appeals the decision by giving the other party and the Engineer written notice of a request for negotiation.

Within ten (10) days of the delivery of said Notice, senior representatives of the Owner and the Contractor, having authority to settle the dispute, and the Engineer shall meet at a mutually acceptable time and place, and thereafter as often as they reasonably deem necessary, to exchange relevant information and to attempt to resolve the dispute. The Owner's representative will participate in good faith during the negotiation and will have authority to approve changes in the Contract Time and Price.

In the event a mutually acceptable decision cannot be reached through negotiation within twenty (20) days of the appealing party's Notice, (or mutually agreeable longer period), or if the party receiving such Notice will not meet within ten (10) days, the Owner or Contractor may declare, by written Notice, delivered to the other party and to the Engineer, that the negotiation was unsuccessful and may initiate further appeal.

Any further appeal shall be initiated by written Notice of the appeal by the Owner or Contractor to the Engineer and non-appealing party within twenty (20) calendar days of receipt of the Notice of unsuccessful negotiation. Failure to issue a Notice of appeal within said period will result in the Engineer's decision being final and binding to the fullest extent allowed by law. If a written Notice of appeal is issued, the claim or dispute may be submitted for non-binding mediation at the discretion of Owner. If Owner chooses non-binding mediation, it shall be a condition precedent to the institution of any further administrative, legal or equitable proceedings by either party

If the Owner requests mediation upon issuance of the Notice of appeal, the parties shall endeavor to agree to a single mediator to mediate the dispute in a session not to exceed one-half day in length, unless extended by the agreement of both parties. If the parties cannot agree on a single mediator, they shall request the chief judge of the local state circuit court to designate a mediator. Unless the parties mutually agree otherwise, the mediation shall occur within ten (10) days of the mediator's selection. The costs of the mediation shall be paid by the parties on a pro rata basis.

The results of successful mediation will be implemented by a Change Order. Should the mediation be unsuccessful, it shall be terminated by written Notice to all involved by the mediator or Owner or Contractor. The dispute resolution process shall then proceed in accordance with paragraph 16.4.

- 16.4. A formal proceeding may then be instituted by the appealing party in a forum of competent jurisdiction within the Owner's locality, to exercise such rights or remedies as the appealing party may have with respect to such claim, dispute or other matter in accordance with applicable state and city laws and regulations.

In the event of any litigation between the parties arising out of this Agreement, the prevailing party will be entitled to recover its attorneys' fees and expert fees, as well as all other costs and expenses of such litigation.

- 16.5. The Contractor shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with the Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as the Owner and the Contractor may otherwise agree in writing.

## **XVII ENGINEER'S STATUS**



- 17.1. All Work shall be performed under the general observation of the Engineer (if specified in the Special Provisions, otherwise, the Owner shall serve as the Engineer at its discretion). The Contractor shall carry out the Work in accordance with the Contract Documents. The construction means, methods, techniques, sequences of procedures, and safety precautions and programs in connection with the Work shall be at the direction and the responsibility of the Contractor. The Engineer shall have authority to and shall reject any and all Work whenever it is necessary to do so in order to insure the proper execution of the Work in accordance with the Contract Documents. The Engineer shall have no authority to approve or order changes in the Work that alter the terms or conditions of the Agreement. The Owner shall confirm by written Notice within fourteen (14) calendar Days any oral order, direction, requirement or determination.
- 17.2. In case of the termination of the employment of the Engineer, the Owner may appoint a capable and reputable Engineer as a replacement. The status under the Agreement of the Engineer shall be that of the former Engineer.
- 17.3. Approval by the Engineer of any materials, plans, equipment or drawings proposed by the Contractor, shall be construed only to constitute an approval of general design. Such approval shall not relieve the Contractor for any responsibility for the accurate and complete performance of the work in accordance with Contract Documents, or from any duty, obligation, performance guarantee or other liability imposed upon him by the provisions of the Agreement.

#### **XVIII NOTICE TO COMPLY ORDER**

*See page 105-15.*

#### **XIX STOP WORK ORDER**

*See page 105-16.*

End of Section

CITY/COUNTY OF \_\_\_\_\_

## NOTICE TO COMPLY

Department of \_\_\_\_\_

Pursuant to Section \_\_\_\_\_ of the Code of the City/County  
of \_\_\_\_\_, Virginia, as amended, a City Manager/County  
Administrator Designee inspected your site at \_\_\_\_\_  
on \_\_\_\_\_, 20\_\_\_\_ at \_\_\_\_\_ a.m. / p.m.

The following conditions of noncompliance were noted:

- ☐ SILT FENCE DOWN
- ☐ DISTURBED AREAS NOT STABILIZED
- ☐ SEDIMENT TRAPPING DEVICES NOT INSTALLED PROPERLY
- ☐ TRACKING ON PUBLIC ROAD
- ☐ OTHER: \_\_\_\_\_  
\_\_\_\_\_

The following corrective measures are needed to bring you into compliance:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

These measures are to be completed before \_\_\_\_\_, 20\_\_\_\_.

Notice ordered by \_\_\_\_\_, on \_\_\_\_\_, 20\_\_\_\_.  
(Designee of City Manager/County Administrator)

Hand Delivered \_\_\_\_\_ Certified Mail \_\_\_\_\_

If you have any questions, please call \_\_\_\_\_.  
(Telephone number)

CITY/COUNTY OF \_\_\_\_\_

## STOP WORK ORDER

Permit Number \_\_\_\_\_

Date \_\_\_\_\_

Department of \_\_\_\_\_

Pursuant to Section \_\_\_\_\_ of the Code of the  
City/County of \_\_\_\_\_, Virginia, as amended, a substantial  
Code violation exists at \_\_\_\_\_. You are  
hereby notified that further work at this location must be

### IMMEDIATELY DISCONTINUED

Corrective Measures Required:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Ordered by: \_\_\_\_\_, on \_\_\_\_\_, 20\_\_\_\_.  
(Designee of City Manager/County Administrator)

Notice served to \_\_\_\_\_, on \_\_\_\_\_, 20\_\_\_\_.

Stop Work Order in Effect Until \_\_\_\_\_

\_\_\_\_\_  
(Signature of Enforcement Officer)

## **SECTION 106**

### **CONTROL OF MATERIAL**

#### **I TESTS AND INSPECTIONS**

- 1.1. All material and workmanship shall be subject to inspection, examination and test by the Owner at any time during manufacture and/or construction. The Owner shall have the right to reject defective material and workmanship or require their correction.
- 1.2. The Contractor shall provide at its expense the testing and inspection services required by the Contract Documents. The Owner will provide at his expense all inspection and testing services not required by the Contract Documents; provided, however, the Contractor will be responsible for the payment of all failing tests.
- 1.3. The Contractor shall furnish promptly without additional charge all reasonable facilities, labor, and materials, necessary and convenient for making such tests as may be designated in the Contract Documents. The Contractor shall work with the Owner and the Engineer in scheduling and coordinating Owner provided testing or inspection services.
- 1.4. If the Contract Documents, laws, ordinances, rules, regulations or orders of any public body having jurisdiction require any Work (or part thereto) specifically to be inspected, tested, or approved by someone other than the Owner, the Contractor shall assume full responsibility for arranging and obtaining such inspections, tests or approvals, pay all costs in connection therewith, and furnish the Owner the required certificates of inspection, or approval. The Contractor shall also be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests or approvals required for the Owner's acceptance of materials or equipment to be incorporated in the Work, or of materials, mix designs, or equipment submitted for approval prior to the Contractor's purchase thereof for incorporation in the Work.
- 1.5. Inspections, tests or approvals by the Owner shall not relieve the Contractor from its obligations to perform the Work in accordance with the requirements of the Contract Documents.
- 1.6. The failure of the Owner to reject or condemn materials and workmanship not conforming to the Contract Documents shall not prevent the Owner from rejecting materials and workmanship found not to be in accordance with the Contract Documents at any time prior to the acceptance of the completed Work, nor shall it be considered as a waiver of any nonconformance with the Contract Documents which may be discovered later, or as preventing the Owner at any time prior to the expiration of the guarantee period or of the expiration of any applicable statutory limitation period for legal actions for Contractor default from recovering damages for work not in accordance with the Contract Documents.

#### **II LABOR, MATERIALS AND EQUIPMENT**

- 2.1. The Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. The Contractor shall at all times maintain good discipline and order at the site.

- 2.2. Unless otherwise specified, the Contractor shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all facilities and incidentals necessary for the furnishing, performance, testing, start-up, and completion of the Work.
- 2.3. All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. If required by the Owner, the Contractor shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable Supplier except as otherwise provided in the Contract Documents.
- 2.4. It shall be the responsibility of the Contractor to legally dispose of all excess material at his expense unless otherwise indicated on the Drawings and/or noted in the Specifications.
- 2.5. No material that is not required for the Work on this Project may be stored on site or within the Project boundaries or on land designated for Project use, unless approved by the Owner in writing prior to placement.

### **III WORK BY OWNER**

- 3.1. The Owner may perform other work related to the Project at the site by the Owner's own forces, have other work performed by utility owners, or let other direct contracts for Work at the site. If the fact that such other work is to be performed was not noted in the Contract Documents, Written Notice will be given to the Contractor prior to starting any such other work.

End of Section

## **SECTION 107**

### **LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC**

#### **I PERMITS AND REGULATIONS**

- 1.1. The Contractor shall procure all permits and licenses, pay all charges, fees and taxes and give all notices necessary and incidental to the due and lawful prosecution of the Work except those provided by the Owner, and specified in the Special Provisions.
- 1.2. The Contractor shall be fully responsible for knowledge of and shall abide by each and every law, rule or regulation of all public bodies having political jurisdiction over the Project and in force at the time of the Contract; including, the safety of persons or property and the protection of persons and property from damage, injury or loss. The Contractor shall erect and maintain all necessary safeguards for such safety and protection and hold harmless the Owner and its agents, officers, or employees against any claim for liability arising from or based on any violation, whether by himself, his agents, his employees or subcontractors. If the Contractor observes that the Contract Documents are at variance with any such law, he shall promptly notify the Owner in writing. The Contractor shall execute and file the documents, statements, and affidavits required under any applicable federal or state law or regulation affecting his Bid or Agreement or prosecution of the Work thereunder. The Contractor shall permit examination of any records made subject to such examination by any federal or state law or by regulations promulgated thereunder by any state or federal agency charged with enforcement of such law. The Contractor shall not be entitled to claim any damages for delay occasioned by compliance with such laws. Where such laws are changed during the course of the Agreement, and where such changes create additional costs to the Agreement or affect the time of the Agreement, such changes shall be made effective through Change Orders prepared in accordance with the Contract Documents.
- 1.3. The Contractor shall comply fully with the U.S. Department of Labor Safety and Health Regulation promulgated under the Occupational Safety and Health Act of 1970, as amended, and under Section 107 of the Contract Work Hours and Safety Standards Act, as amended. The Contractor shall also comply fully with the Overhead High Voltage Act as set forth in Chapter 30, Title 59.1 of the Code of Virginia; Subpart P - "Elevations, Trenching and Shoring", of the Virginia Occupational Safety and Health Standards for Construction Industry; the Virginia Confined Space Standard 1910.146 of the Virginia Occupational Safety and Health Standards for General Industry; and the "Underground Utility Damage Prevention Act" as set forth in Chapter 10.3, Title 56 of the Code of Virginia, 1950, as amended. The above listing of safety laws and regulations is for informational purposes and in no way alters or limits Contractor's responsibility to comply with the safety laws of all public bodies having jurisdiction as set forth in Section 107-1.2 above.

#### **II LAND, EASEMENTS, AND RIGHTS-OF-WAY**

- 2.1. Prior to issuance of Notice to Proceed, the Owner shall obtain all land, easements, and rights-of-way necessary for carrying out and for the completion of the work to be performed and pursuant to the Contract Documents, unless otherwise specified herein or otherwise mutually agreed. A land surveyor licensed in the Commonwealth of Virginia must perform the layout. Easements for temporary uses and detours requested by the Contractor and approved by the Owner in lieu of a detour within the right of way or easement area shall be acquired by the Contractor without the Owner being a party to the Agreement.

- 2.2. The Owner shall provide to the Contractor information that delineates and describes the lands owned, rights-of-way, or easements acquired, and permits obtained.
- 2.3. The Contractor shall provide at its own expense and without liability to the Owner any additional land and access thereto that the Contractor may desire for temporary construction facilities, or for storage of materials. The Contractor shall not use private property in connection with the Work unless prior written permission is obtained from the property owner. A copy of the written permission indicating the name, address, and phone number of the property owner shall be furnished to the Owner. Upon completion of the use of the property, the Contractor shall also furnish the Owner a release signed by the property owner indicating that the property has been satisfactorily restored.
- 2.4. The Contractor shall acquire all necessary and appropriate Permit(s) from the locality, VDOT, or both, for entrance(s) to off-site storage or lay-down yard(s) and shall abide by all conditions required by the Permit. The Contractor shall be solely responsible for all costs incurred in acquiring the Permit and all costs associated with the efforts necessary to comply to Permit requirements.

The Contractor shall utilize the most direct means of access to the Work area and shall not access the Work area through adjacent neighborhoods, parking areas, etc. Any and all damages to adjacent areas resulting from the Contractor's activities shall be the sole responsibility of the contractor and shall be repaired at the Contractor's expense, to the complete satisfaction of the Owner, locality/VDOT, and the affected property owner(s).

### **III PROTECTION OF WORK, PROPERTY & PERSONS**

- 3.1. The Contractor will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. The Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to all employees on the Work and other persons who may be affected thereby, all the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site, and other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction. The Contractor shall provide and maintain all necessary watchmen, barricades, lights, and warning signs, and take all necessary precautions for the protection and safety of the public.
- 3.2. The Contractor shall comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction. The Contractor shall erect and maintain, as required by the conditions and progress of the Work, all necessary safeguards for safety and protection, and shall notify owners of adjacent utilities when prosecution of the Work may affect them. The Contractor shall remedy all damage, injury or loss to any property caused, directly or indirectly, in whole or in part, by the Contractor, any Subcontractor, or anyone for whose acts any of them will be liable.
- 3.3. The Contractor shall designate a responsible member of its organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated in writing by the Contractor to the Owner.
- 3.4. In accordance with generally accepted construction practices, and the requirements of OSHA, the Contractor shall be solely and completely responsible for conditions of the Project site. This requirement shall apply continuously and not be limited to normal working hours. The Contractor

shall comply with Federal and State safety regulations, at the site of the Work and provide such equipment and medical facilities as necessary to supply first aid service to anyone who may be injured. The Contractor shall promptly report in writing to the Owner all accidents whatsoever arising out of, or in connection with, the performance of the Work whether on, or adjacent to, the site and which caused death, personal injury or property damages, giving full details and statement of witnesses. In addition, if death or serious injuries or serious damages are caused, the accidents shall be reported immediately to both the Engineer and the Owner. If any claim is made by anyone against the Contractor or any subcontractor on account of any accident, the Contractor shall promptly report the facts, in writing, to the Owner.

- 3.5. Until final acceptance of the Work by the Owner, the Contractor shall have charge and care thereof and shall take every precaution against damage to the Work or to any part thereof by action of the elements or from any other cause whether installed, in storage, or off-site. The Contractor shall rebuild, repair, restore, and make good damage to any portion of the Work occasioned by any of the foregoing causes before final acceptance and shall bear the expense thereof. The Owner may reimburse the Contractor for repair of damage to Work attributable to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor. In case of suspension of work, the Contractor shall be responsible for the Project and shall take such precautions as may be necessary to prevent damage to the Work, provide for erosion and environmental control and drainage control, and erect any necessary temporary structures, signs, or other facilities at his own expense. During the suspension of Work, the Contractor shall properly and continuously maintain in an acceptable growing condition all living material in newly established plantings, seedings, and soddings furnished under the Contract and shall take adequate precautions to protect new tree growth and other important vegetation against damage.
- 3.6. Emergency traffic such as police, fire and disaster units shall be provided reasonable access to the work area at all times. The Contractor shall coordinate partial or full street closures with all emergency services, such as police, fire and disaster units, and shall bear the responsibility of notification to same of all closures, blockages and re-openings.
- 3.7. The Contractor shall, during the progress of the Work and as directed by the Owner, remove from the Owner's property and from all public and private property and rights-of-way, at its own expense, all temporary structures, rubbish, debris, piles of earth, foreign matter, and waste materials resulting from his operations. The site of the Work shall be restored to the conditions existing before the Work was started, to the satisfaction of the Owner. Lawns, pavements, sidewalks, and other surfaces shall be preserved where practicable, but if damaged, shall be fully restored.
- 3.8. The Owner may take corrective action if the Contractor fails to perform cleanup and restoration in an orderly, continuous, and expeditious manner. The Owner may take corrective action three days after delivery of notice to do so to the Contractor and deduct the cost from any monies due the Contractor.
- 3.9. The Contractor shall preserve property and improvements along the lines of and adjacent to the Work unless their removal or destruction is called for by the Contract Documents. The Contractor shall use suitable precautions to prevent damage to such property.
- 3.10. When the Contractor finds it necessary to enter on private property, he shall secure from the property owner or lessee a written permit for such entry prior to moving thereon. An executed copy of this permit shall be furnished to the Owner.
- 3.11. The Contractor shall be responsible for damage or injury to property during the prosecution of the Work resulting from any act, omission, neglect, or misconduct in the method of executing the Work



or attributable to defective Work or materials. This responsibility shall not be released until final acceptance of the Project.

- 3.12. When direct or indirect damage is done to property by or on account of any act, omission, neglect or misconduct in the method of executing the Work or in consequence of the non-execution thereof on the part of the Contractor, the Contractor shall restore such property to a condition substantially equal to that existing before such damage was done by repairing, rebuilding or restoring, as may be directed by the Owner, or making settlement with the property owner. The Contractor shall secure from the property owner a release from any claim against the Owner without additional compensation therefor. A copy of this release shall be furnished to the Owner.
- 3.13. All property boundary markers shown on the Drawings or discovered during the course of construction shall be protected. All property boundary markers disturbed due to construction activities shall be replaced by the Contractor at no expense to the Owner. Property boundary markers shall be restored by a surveyor licensed in the State of Virginia and all restored property boundary markers shall be shown on the Record Drawings.
- 3.14. The Contractor shall employ a licensed Plumbing Contractor, who shall obtain the necessary permits and shall do all Work on private property in accordance with the International Plumbing Code, latest edition. The Owner will obtain the permission of the property owner to work on private property. No payment will be made for work done on private property until all restoration work is complete to the satisfaction of the Owner and the homeowner.
- 3.15. The Contractor will notify the affected property owners, in writing 5 calendar Days prior to commencement of Work. "Affected Property Owners" shall be those property owners whose properties are affected by construction on the Project in the following manner: (i) restrained access to and from residences and business locations; (ii) interference with the right to enjoy one's residence or business free of disturbing and unusual environmental changes as a result of the Project, such as excessive noise, dust, light, as well as unusual working hours and odors; and (iii) the relocation of personal property, such as trees, shrubs, plants and flowers, play equipment, portable buildings, fences and automobiles, which must be moved as a result of the Project. Such Notice shall be deemed properly given if mailed by first class, postage prepaid, to the address for the property owners shown in the local tax records.
- 3.16. It shall be the Contractor's paramount responsibility to additionally notify each residence and business that construction adjacent to their property is imminent. This notification will be given and noted no less than 48 hours prior to Work commencing adjacent to the affected property. The Notice from the Contractor shall be written and may be hand delivered to each affected residence and business. A separate Notice shall be delivered each time the entrance to each residence and business will be blocked or inaccessible.
  - A. If this Notice is mailed, time is to be allowed such that receipt by the addressee is at least 48 hours prior to Work commencement. Such Notice shall be deemed properly given if mailed by first class, postage prepaid, to the address for the property owners shown in the local tax records. A duplicate copy of each mailed Notice is to be forwarded to the Owner.
  - B. If this Notice is hand delivered, a duplicate copy of each Notice is to be forwarded to the Owner indicating the date of delivery and if personal contact was achieved.

#### IV ENVIRONMENTAL STIPULATIONS

- 4.1. Any cost associated with violations of the law including, but not limited to, remediations, clean up cost, fines, administrative or civil penalties or charges, and third party claims imposed on the Owner by any regulatory agency or by any third party as a result of the Contractor's noncompliance with federal, state, or local environmental laws and regulations or nuisance statutes by the Contractor or by Subcontractors, consultants, sub-consultants, or any other persons, corporations or legal entities retained by the Contractor for this Agreement, shall be paid by the Contractor.

No separate payment will be made for the Work or precautions described herein except where provided for as a specific item in the Agreement or except where provision has been made for such payment in these specifications.

- 4.2. Pollution:

A. Water

The Contractor shall exercise every reasonable precaution throughout the duration of the project to prevent pollution of rivers, streams, and impoundments. Pollutants such as chemicals, fuels, lubricants, bitumens, raw sewage, paints, sedimentation, and other harmful material shall not be discharged into or alongside rivers, streams, or impoundments or into channels leading to them.

Construction discharge water shall be filtered to remove deleterious materials prior to discharge into state waters. During specified spawning seasons, discharges and construction activities in spawning areas of state waters shall be restricted so as not to disturb or inhibit aquatic species that are indigenous to the waters. Neither water nor other effluence shall be discharged onto wetlands or breeding or nesting areas of migratory waterfowl. When used extensively in wetlands, heavy equipment shall be placed on mats. Temporary construction fills and mats in wetlands and flood plains shall be constructed of approved non-erodible materials and shall be removed by the Contractor to natural ground when the Owner so directs.

If the Contractor dumps, discharges, or spills any oil or chemical that reaches or has the potential to reach a waterway, he shall immediately notify all appropriate jurisdictional state and federal agencies and shall take immediate actions to contain, remove, and properly dispose of the oil or chemical.

Excavation material shall be disposed of in approved areas above the mean high water mark shown on the plans in a manner that will prevent the return of solid or suspended materials to state waters. If the mark is not shown on the plans, the mean high water mark shall be considered the elevation of the top of stream banks.

Construction operations in rivers, streams, or impoundments shall be restricted to those areas where channel changes are shown on the plans and to those that shall be entered for the construction of structures. Rivers, streams, and impoundments shall be cleared of false-work, piling, debris, or other obstructions placed therein or caused by construction operations.

The Contractor shall prevent stream constriction that would reduce stream flows below the minimum, as defined by the State Water Control Board, during construction operations.

If it is necessary to relocate an existing stream or drainage facility temporarily to facilitate construction, the Contractor shall design and provide temporary channels or culverts of adequate size to carry the normal flow of the stream or drainage facility. The Contractor shall submit a temporary relocation design to the Owner for review and acceptance in sufficient time to allow for discussion and correction prior to beginning the work the design covers. Costs for the temporary relocation of the stream or drainage facility shall be included in the Contract Price for the related pipe or box culvert.

When a live watercourse must be crossed by construction vehicles more than twice in any six month period, a temporary vehicular stream crossing constructed of nonerodible material shall be provided.

Contractor shall comply with all provisions of the latest edition of the Virginia Erosion and Sedimentation Control Handbook.

B. Air

The Contractor shall comply with the provisions of the State Air Pollution Control Law and Rules of the State Air Pollution Control Board, including notifications required therein.

Burning shall be performed in accordance with applicable local laws and ordinances and under the constant surveillance of watchpersons. Care shall be taken so that the burning of materials does not destroy or damage property or cause excessive air pollution. The Contractor shall not burn rubber tires, asphalt, used crankcase oil, or other materials that produce dense smoke. Burning shall not be initiated when atmospheric conditions are such that smoke will create a hazard to the motoring public or airport operations. Provisions shall be made for flagging vehicular traffic if visibility is obstructed or impaired by smoke. At no time shall a fire be left unattended.

Asphalt mixing plants shall be designed, equipped, and operated so that the amount and quality of air pollutants emitted will conform to the Rules of the State Air Pollution Control Board.

Emission standards for asbestos incorporated in the EPA's National Emission Standards for Hazardous Air Pollutants apply to the demolition or renovation of any institutional, commercial, or industrial building, structure, facility, installation, or portion thereof that contains friable asbestos.

C. Noise

The Contractor's operations shall be performed so that exterior noise levels measured during a noise-sensitive operation shall not be more than 80 decibels within 100 feet from the point of origin or within ten (10) feet of a noise-sensitive facility. Noise-sensitive facility is any facility for which lowered noise levels are essential if the facility is to serve its intended purpose. Such facilities include, but are not limited to, those associated with residences, hospitals, nursing homes, churches, schools, libraries, parks and recreational areas.

The Owner may monitor construction-related noise. If construction noise levels exceed the specified limits, the Contractor shall take corrective action before proceeding with operations. The Contractor shall be responsible for costs associated with the abatement of

construction noise and the delay of operations attributable to noncompliance with these requirements.

The Owner may prohibit or restrict to certain portions of the project any work that produces objectionable noise between 9 P.M. and 7 A.M. If other hours are established by local ordinance, the local ordinance shall govern.

Equipment shall in no way be altered so as to result in noise levels that are greater than those produced by the original equipment.

When feasible, the Contractor shall establish haul routes that direct his vehicles away from developed areas and ensure that noise from hauling operations is kept to a minimum.

These requirements are not applicable if the noise produced by sources other than the Contractor's operation at the point of reception is greater than the noise from the Contractor's operation at the same point.

**D. Forest Fires**

The Contractor shall take all reasonable precautions to prevent and suppress forest fires in any area involved in construction operations or occupied by him as a result of such operations. The Contractor shall cooperate with the proper authorities of the state and federal governments in reporting, preventing, and suppressing forest fires. Labor, tools, or equipment furnished by the Contractor upon the order of any forest official issued under authority granted the official by law shall not be considered a part of the Contract. For fires originating by no fault of the Contractor, the Contractor may negotiate with the proper forest official for compensation for such labor, tools, or equipment.

**4.3. Archeological, Paleontological, and Rare Mineralogical Findings:**

In the event of the discovery of prehistoric ruins, Indian or early settler sites, burial grounds, skeletal remains, relics, artifacts, fossils, stone tools, meteorites, or other articles of archeological, paleontological, or rare mineralogical interest during the prosecution of work, the Contractor shall act immediately to suspend work at the site of the discovery and notify the Owner. The Owner will immediately notify the proper state authority charged with the responsibility of investigating and evaluating such finds. The Contractor shall cooperate and, upon request by the Owner, assist in protecting, mapping, and removing the findings. Findings shall become the property of the Owner unless they are located on federal lands, in which event they shall become the property of the U.S. government.

When such work delays the progress of the Work, the Owner will give consideration to adjustments in the Contract Time limit.

**V TEMPORARY FACILITIES**

- 5.1. The Contractor shall provide and maintain in a neat, sanitary condition such accommodations for the use of employees as may be necessary to comply with the requirements of any governing body and regulatory agency having jurisdiction.
- 5.2. The Contractor shall pay for and furnish temporary facilities (such as light, power, and water) complete with connecting piping, wiring, lamps, and similar equipment as necessary. The Contractor

shall install, maintain, and remove temporary facilities upon completion of the Work. The Contractor shall obtain all permits and bear all costs in connection with temporary facilities at no expense to the Owner. The use of temporary facilities shall be in compliance with the requirements of the facility owner.

## **VI EMERGENCIES**

- 6.1. In emergencies affecting the safety of persons, or the Work, or property at the site or adjacent thereto, the Contractor, without special instruction or authorization from the Owner, shall act to prevent threatened damage, injury or loss. The Contractor shall give the Owner prompt Written Notice of any significant changes in the Work or deviations from the Contract Documents caused thereby. Any compensation, claimed by the Contractor on account of emergency work, shall be determined by agreement between the Owner and the Contractor, and a Change Order shall be issued to document the changes.

## **VII WARRANTY AND GUARANTEE**

- 7.1. The Contractor shall warrant and guarantee to the Owner that all Work is in accordance with the Contract Documents and is not defective. Prompt notice of all defects shall be given to the Contractor. The Contractor shall promptly correct all defective Work performed and replace defective materials or items found deficient during the final inspection, in a manner satisfactory and at no additional cost to the Owner for a period of one (1) year following the date of Substantial Completion; provided, however, if the local ordinances or code regarding warranties and guarantees, or if any provision in the local ordinances or code regarding the timing of performance or defect bonds conflicts with such one (1) year period, the local ordinance or code shall control. This warranty and guarantee shall not operate as a waiver of any of the rights and remedies of the Owner for default under or breach of the Agreement which rights and remedies may be exercised at any time within the period of any applicable statute of limitations.
- 7.2. Where defective Work (and damage to other Work resulting therefrom) has been corrected, removed or replaced under this Article, the correction period hereunder with respect to such Work will be extended for an additional period of one (1) year after such corrections or removal and replacement has been satisfactorily completed. Repetitive malfunction of an equipment or product item shall be cause for replacement and an extension of the correction period to a date one (1) year following acceptable replacement. A repetitive malfunction shall be defined as the third failure of an equipment or product item following original acceptance.
- 7.3. If the Contractor does not promptly correct the defective Work or replace defective materials, the Owner may have the defective Work corrected or the rejected Work removed and replaced, and all costs of such removal and replacement shall be paid by the Contractor.
- 7.4. Certain equipment or items may be required in the Contract Documents to be warranted for periods longer than one year.
- 7.5. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Contract Documents or by Change Order.

## **VIII OPENING SECTIONS OF PROJECTS TO TRAFFIC**

- 8.1. When specified in the Contract or when directed by the Owner, certain sections of the Work may be opened to traffic.
- 8.2. On any section of the Work opened by order of the Owner where the Contract Documents do not provide for traffic to be carried through the Work and the Contractor has not been dilatory in prosecuting the Work, the Contractor will not be required to assume any expense entailed in maintaining the road for traffic. Such expense will be borne by the Owner or will be compensated for by Change Order. Repair of slides and repair of damage attributable to traffic will be compensated for by Change Order. The cost of all other repairs shall be borne by the Contractor.
- 8.3. On any section of the Work opened by the order of the Owner where the Contract Documents do not provide for traffic to be carried through the Work, any additional cost for the completion of other items of Work that are occasioned because of the changed working conditions will be compensated by Change Order.
- 8.4. If the Contractor is dilatory in completing the Work, he shall not be relieved of the responsibility for maintenance during the period the section is opened to traffic prior to final acceptance. Any expense resulting from the opening of such portions under these circumstances, except for slides, shall be borne by the Contractor. The Contractor shall conduct the remainder of the construction operations so as to cause the least obstruction to traffic.

## **IX NO WAIVER OF LEGAL RIGHTS**

- 9.1. The Owner shall not be precluded or stopped by any measurement, estimate, or certificate made either before or after final acceptance of the Work and payment therefor from showing (1) the true amount and character of the Work performed and materials furnished by the Contractor, (2) that any such measurement, estimate, or certificate is untrue or incorrectly made, or (3) that the Work or materials do not conform with the provisions of the Contract. The Owner shall not be precluded or stopped, notwithstanding any such measurement, estimate, or certificate, and payment in accordance therewith, from recovering from the Contractor or his surety, or both, such damage as it may sustain by reason of his failure to comply with the terms of the Contract. Neither the acceptance by the Owner or any representative of the Owner, nor any payment for or acceptance of the whole or any part of the Work, nor any extension of time, nor any possession taken by the Owner shall operate as a waiver of any portion of the Contract or of any power herein reserved or of any right to damages. A waiver of any breach of the Contract shall not be held to be a waiver of any other or subsequent breach.

End of Section

## **SECTION 108**

### **PROSECUTION AND PROGRESS OF WORK**

#### **I PATENT FEES AND ROYALTIES**

- 1.1. The Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of the Owner its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by the Owner in the Contract Documents.
- 1.2. To the fullest extent permitted by Laws and Regulations, the Contractor shall indemnify and hold harmless the Owner, the Engineer, the Engineer's Consultants and the officers, directors, employees, agents and other consultants of each and any of them from and against all claims, costs, losses and damages arising out of or resulting from any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product or device not specified in the Contract Documents.

#### **II TAXES**

- 2.1. The Contractor shall pay all sales, consumer, use and other similar taxes required to be paid by the Contractor in accordance with the Laws and Regulations of the Project that are applicable during the performance of the Work. (The Contractor may apply to the Virginia Department of Environmental Quality for tax exempt status for certain wastewater products.)

#### **III NOTICE TO PROCEED**

- 3.1. Written Notice to Proceed will be given after the Agreement has been executed and the required Bid Security and insurances have been filed with and approved by the Owner.
- 3.2. The Contractor shall notify the Owner and all other governing bodies having jurisdiction, of the time and location that work will begin at least 48 hours prior to beginning Work.

#### **IV PRE-CONSTRUCTION CONFERENCE**

- 4.1. Within ten (10) Days of the Effective Date of the Agreement, a conference attended by the Contractor, the Owner, and others as appropriate will be held to discuss the Project, and to discuss procedures relating to Shop Drawings, submittals, Applications for Payment, and other Project issues, and to establish a working relationship among the parties as to the Work.

#### **V CONSTRUCTION PROGRESS SCHEDULE**

- 5.1. Within ten (10) Days after the Effective Date of the Agreement, the Contractor shall submit a written

schedule to the Owner showing the proposed order of Work and indicating the time required for completion of major items of Work. This schedule shall take into account the passage or handling of traffic with the least practicable interference and the orderly, timely and efficient prosecution of the Work. The schedule will be used as an indication of the sequence of the major construction operations and as a check on the progress of the Work.

- 5.2. The Contractor shall update the progress schedule monthly to reflect any schedule changes required to complete the remaining Work in accordance with the requirements of the Contract Documents. The updated schedule shall be submitted to the Owner for acceptance with the monthly application for progress payment; no payment will be made if the updated schedule is not submitted. All proposed adjustments in the progress schedule shall generally conform to the progress schedule then in effect and will comply with any provisions of the general requirements applicable thereto.

## **VI SUBCONTRACTS**

- 6.1. Except as otherwise noted, contract Work, the cost of which is at least fifty percent (50%) of the total Contract Price shall be performed by the Contractor's own organization.
- 6.2. No part of the Work shall be transferred or subcontracted without prior written consent of the Owner, and no such consent or approval shall release the Contractor from any obligations to the Owner or persons employed by the Subcontractors, or to those supplying materials to the Subcontractors.
- 6.3. The Contractor agrees that it is as fully responsible to the Owner for the acts and omissions of its Subcontractors and persons either directly or indirectly employed by the Subcontractors as it is for the acts or omissions of persons directly employed.
- 6.4. Nothing contained in the Agreement shall create any contractual relation between any Subcontractor and the Owner.

## **VII COMMENCEMENT AND PROSECUTION OF WORK**

- 7.1. The Contractor shall commence Work within thirty (30) Days of the date specified in the Notice to Proceed. Time being of the essence of this Project, the Contractor shall prosecute the Work diligently, using such means and methods of construction as will secure its full completion within the time period specified in the Agreement. No Work shall be done at the site prior to the date specified in the Notice to Proceed.
- 7.2. The Contractor shall proceed with the Work at such rate of progress to insure full completion within the Contract Time. It is expressly understood and agreed, by and between the Contractor and the Owner, that the Contract Time for the completion of the Work as specified in the Agreement is a reasonable time, taking into consideration the average climatic and economic conditions and other factors prevailing in the locality of the Project.
- 7.3. The Contract Time will commence on the date indicated in the Notice to Proceed.
- 7.4. Once the Contractor has commenced Work, it shall be prosecuted continuously and to the fullest extent possible except for interruptions caused by weather or delays authorized or ordered by the Owner.
- 7.5. Gifts, gratuities, or favors shall not be given or offered by the Contractor to personnel of the Owner.



- 7.6. The Contractor shall not employ any personnel of the Owner or the Engineer for any services without the prior written consent of the Owner.
- 7.7. Workers shall have sufficient skill and experience to perform properly the Work assigned to them. Workers engaged in special or skilled work shall have sufficient experience in such work and in the operation of equipment required to perform it properly and satisfactorily. Any person employed by the Contractor or any subcontractor who, in the opinion of the Owner, does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the Owner, be removed forthwith by the Contractor or subcontractor employing the person and shall not be employed again on any portion of the work without the approval of the Owner.
- 7.8. Equipment shall be of sufficient size and in such mechanical condition as to meet the requirements of the Work and produce a satisfactory quality of work. Equipment shall be such that no damage to the roadway, adjacent property, or other highways will result from its use. The Owner may order the removal and require replacement of unsatisfactory equipment.

### **VIII SUSPENSION OF WORK**

- 8.1. The Owner may, at any time and without cause, suspend the Work or any portion thereof for a period of not more than 90 Days or such further time as agreed upon by the Contractor, by Written Notice to the Contractor. Such Notice shall specify the date on which Work shall be resumed and the Contractor shall resume the Work on the date so specified. The Contractor will be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension if the Contractor makes a claim in accordance with the Contract Documents, except that no such increase or extension shall be allowed if the suspension was due to a failure by the Contractor to perform the Work in accordance with the Agreement.
- 8.2. *The Owner may decline to approve or, because of subsequently discovered evidence, nullify the whole or part of any Certificate of Payment to such extent as may be necessary to protect the Owner from loss on account of:*
- a. Defective Work not remedied;*
  - b. Claims filed or reasonable evidence indicating probable filing of claims against the Contractor;*
  - c. Failure of the Contractor to make payments properly to subcontractors or for materials or labor;*
  - d. A reasonable doubt that the Contract can be completed for the balance then unpaid;*
  - e. Damage to the Owner by another Subcontractor;*
  - f. Failure to maintain (each month) the record set of drawings and specifications, or a failure to provide the Owner record drawings and specifications within 30 calendar days from the date of the Certificate of Substantial Completion;*
  - g. Failure to periodically remove and dispose of accumulated debris, rubbish, and discarded/damaged materials;*
  - h. Persistent failure to carry out the Work in accordance with the Contract Documents;*
  - i. A reasonable doubt that the Work will be completed within the Contract Time.*
- 8.3. *When the above grounds are resolved to the satisfaction of the Owner, payment shall be made for amounts withheld therefore.*

## **IX      TERMINATION OF AGREEMENT**

### **9.1.    Termination for the Convenience of the Owner**

The performance of Work under this Agreement may be terminated by the Owner in accordance with this section in whole, or in part(s), whenever the Owner shall determine that such termination is in the best interest of the Owner. Any such termination shall be effected by delivery to the Contractor of a notice of termination specifying the extent to which performance of Work under the Agreement is terminated, and the date upon which such termination becomes effective.

After receipt of a notice of termination, and except as otherwise directed by the Owner, the Contractor shall:

- A.     Stop Work under the Agreement on the date and to the extent specified in the notice of termination.
- B.     Place no further orders or subcontracts for materials, services, or facilities, except as may be necessary for completion of such portion of the Work under the Agreement that is not terminated.
- C.     Terminate all orders and subcontracts to the extent that they relate to the performance of the Work terminated by the notice of termination.
- D.     Assign to the Owner, and as directed by the Owner, all of the right, title and interest of the Contractor under the orders and subcontracts so terminated. The Owner shall have the right and discretion to settle or pay any and all claims arising out of the termination of such orders and subcontracts.
- E.     Settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, with the approval or ratification of the Owner. This approval or ratification will be final for all purposes of this section.
- F.     Transfer title and deliver to the Owner, as directed by the Owner, the fabricated or unfabricated parts, Work in process, completed Work, supplies, and other materials produced as a part of or acquired in connection with the performance of the Work terminated by the notice of termination, and the completed or partially completed plans, drawings, information and other property which, if the Agreement has been completed, would have been required to be furnished to the Owner.
- G.     Use his best efforts to sell as directed or authorized by the Owner, property of the type referred to in Paragraph F above; provided, however, that the Contractor shall not be required to extend credit to any purchaser. The proceeds of any such transfer or disposition shall be applied in reduction of any payments to be made by the Owner to the Contractor under this Agreement or shall otherwise be credited to the Contract price or cost of the Work covered by this Agreement or paid in such manner as directed by the Owner. The Contractor may acquire any such property under the conditions prescribed and at a price or prices approved by the Owner.
- H.     Complete performance of that Work which was not terminated by the Owner.

- I. Take such action as may be necessary, or as the Owner may direct, for the protection and preservation of the property related to this Agreement which is in the possession of the Contractor and in which the Owner has, or may acquire, an interest.
- J. Within 30 Days after the receipt of the Notice of termination, the Contractor may submit a list to the Owner for approval, certified as to quantity and quality of any or all items of, inventory not previously disposed of, exclusive of items, the disposition of which has been directed or authorized by the Owner, and may request the Owner to remove such approved items or enter into a storage agreement covering the same. Not later than 15 Days thereafter, the Owner will accept title to such approved items and remove them or enter into a storage agreement covering same. The list submitted shall be subject to final verification by the Owner upon removal of the items, or if the items were stored within 45 Days from the date of submission of the list. Any necessary adjustment to correct the list as submitted shall be made prior to final settlement.
- K. Within 30 Days after receipt of the notice of termination, the Contractor shall submit to the Owner his termination claim. Such claim shall be submitted in writing. Upon failure of the Contractor to submit its termination claim within the time allowed, the Owner may, at its discretion, reject such termination claim. Such termination claim shall include the cost of the following:
1. The cost of supplies accepted by the Owner and not previously paid for by the Owner, appropriately adjusted for any saving of freight or other charges.
  2. The cost incurred in the performance of the Work terminated, including Initial cost and preparatory expense allocable thereto, but exclusive of any cost attributable to supplies paid or to be paid for by the Owner.
  3. The cost of settling and paying claims arising out of the termination of Work under subcontracts or orders which are properly chargeable to the terminated portion of the Agreement, exclusive of amounts paid or payable on account of supplies or materials delivered or services furnished by subcontractors or vendors prior to the effective date of notice of termination and previously paid for by the Owner.
  4. A reasonable amount of profit or commission, which will be determined based on the Project's specific overhead and expense data at the rate computed in the original Contract Price or, at the discretion of the Owner, as determined by an audit. The cost of the audit will be borne by the Contractor.
  5. Cost of accounting, legal, clerical and other expenses reasonably necessary for the termination and settlement of subcontracts or orders thereunder, together with reasonable storage, transportation and other costs incurred in connection with the protection or disposition of property allocable to this termination portion of the Agreement.
  6. The total sum to be paid to the Contractor shall not exceed the Contract Price as reduced by the amount of payments previously made and its further reduced by the Contract Price of Work not terminated. Said total sum shall also be reduced by the reasonable value, as determined by the Owner, of property which is destroyed, lost, stolen, or damaged so as to become undeliverable to the Owner or to a buyer.

## 9.2. Termination with Cause/Default

In the event that the Contractor shall for any reason or through any cause be in default of the terms of this Agreement, the Owner may give the Contractor written Notice of such default by certified mail/return receipt requested at the address set forth herein.

Unless otherwise provided, Contractor shall have ten (10) Days from the date such notice is mailed in which to cure the default. Upon failure of the Contractor to cure the default, the Owner may immediately cancel and terminate this Agreement as of the mailing date of the default notice.

Upon termination, the Contractor shall withdraw its personnel and equipment, cease performance of any further Work under this Agreement, and turn over to the Owner any Work in process for which payment has been made.

In the event of violations of law, safety or health standards and regulations, this Agreement may be immediately canceled and terminated by the Owner and provisions herein with respect to opportunity to cure default shall not be applicable.

## 9.3. Contractor's Right to Terminate the Agreement

Should the Work be stopped for a period of 90 Days or more, through no fault of the Contractor, or should the Owner fail to pay the Contractor any payment within a reasonable length of time after said payment shall become due, the Contractor may, upon seven (7) Days written notice to the Owner, stop Work, or terminate the Agreement and recover from the Owner payment for all Work executed, plus any loss actually sustained, plus reasonable profit and damage; provided, however, the total recovery from Owner shall not exceed the Contract Price.

## **X LIQUIDATED DAMAGES**

- 10.1. It is mutually understood and agreed by and between the Contractor and Owner that in the execution of the Work, time is an essential element of the Agreement, and it is important that the Work proceed vigorously to completion.
- 10.2. The Owner has the right to deduct *any* liquidated damages from any money in the Owner's hands, otherwise due, or to become due, to the Contractor, and to sue for and recover any additional compensation for damages for non-performance of the Work or failure to complete the Work within the Contract Time.
- 10.3. The assessment of liquidated damages for failure to complete the Work within the Contract Time shall not constitute a waiver of the Owner's right to collect any additional damages that the Owner may sustain by failure of the Contractor to carry out the terms of the Agreement.
- 10.4. In the event of delay in the completion of the Work as specified beyond the Completion Date as adjusted by Change Orders, it would be difficult to determine the exact amount of the loss or damages suffered by the Owner due to delays in completion of the Agreement. Therefore, for every - Day of delay past Completion Date of this Agreement as adjusted by Change Orders, the Contractor and the Contractor's Surety will be liable to the Owner, as liquidated damages for delay and not as a penalty, in the sum designated in Section 102, III. Bid Form, and in paragraph H of the Agreement between Contractor and Owner as set forth in Section 103, for each and every calendar Day the Contractor shall be in default, as follows:

- A. If Substantial Completion has not been achieved by the scheduled Substantial Completion date, the Substantial Completion liquidated damages shall accrue each day until Substantial Completion is achieved.
  - B. If neither Substantial Completion nor Final Completion has been achieved by the scheduled Final Completion date, only Substantial Completion liquidated damages shall occur each day until Substantial Completion is achieved and, thereafter, Final Completion liquidated damages shall accrue each day until Final Completion is achieved.
  - C. If Substantial Completion has been achieved but Final Completion has not been achieved by the Final Completion date, Final Completion liquidated damages shall accrue each day until Final Completion is achieved.
  - D. Substantial Completion liquidated damages and Final Completion liquidated damages shall not run concurrently.
  - E. The scheduled Final Completion date shall not be extended, in any case, solely because Substantial Completion was not achieved by the scheduled Substantial Completion date.
  - F. This paragraph will not apply to delays in completion of the Work due to acts of God, acts of the Public Enemy, acts of the Government (in either its sovereign or contractual capacity), fires, floods, strikes, or unusually severe weather, provided, that the Contractor shall, within five (5) days from the end of the month in which such delay occurred, notify the Owner in writing of the causes of delay and the facts relating thereto; and, provided that such delay occurs prior to the Substantial Completion date or, if Substantial Completion has been achieved, such delay occurs prior to the Final Completion date. Failure to provide such notice shall preclude the Contractor from claiming that delays resulted from the acts of God, acts of the Public Enemy, acts of the Government (in either its sovereign or contractual capacity), fires, floods, strikes, or unusually severe weather.
  - G. Nothing in the above clause shall be interpreted as limiting in any way, the Owner's right to proceed against the Contractor for additional damages or losses. Liquidated damages are for delay only and are in addition to any other rights available to the Owner by contract or law. To the fullest extent permitted by Laws and Regulations, the Contractor shall waive any defense as to the validity of such liquidated damages as set forth herein on the grounds that such liquidated damages are void as penalties or are not reasonably related to actual damages.
- 10.5. Weather shall be considered "unusually severe", only if a weather condition (or any combination of weather conditions) prevents the Contractor from working a number of workdays during a calendar month, which number exceeds the number of workdays listed below for that calendar month. Delays will only be allowed for the amount of lost work days in excess of the following:
- |          |   |           |   |
|----------|---|-----------|---|
| January  | 6 | July      | 4 |
| February | 4 | August    | 3 |
| March    | 4 | September | 3 |
| April    | 3 | October   | 3 |
| May      | 4 | November  | 3 |
| June     | 4 | December  | 5 |
- 10.6. The Contractor shall anticipate the potential loss of the number of workdays listed above for each calendar month due to weather, and shall schedule the Work accordingly. Any schedules submitted shall include the above number of days each month as lost days. The Owner shall determine, upon examination of submitted evidence, whether or not weather prevented the Contractor from performing Work on the days claimed by the Contractor. The Owner's determination shall be final and binding upon the parties.

- 10.7. The Work shall be considered complete when the following criteria have been met; all items of the Work have been constructed, inspected and accepted by the Owner and further that all punch list items have been corrected and the Owner has issued a letter of acceptance.

## **XI SEPARATE CONTRACTS BY OWNER**

- 11.1. The Owner reserves the right to award other contracts in connection with the Project, the work under which may proceed simultaneously with the execution of this Agreement. The Contractor shall afford other separate contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work, and the Contractor shall take all reasonable action to coordinate its Work with theirs. If the work performed by the separate contractor is defective or so performed as to prevent the Contractor from performing the Work, the Contractor shall immediately notify the Owner upon discovering such conditions. Upon receiving notification, the Owner shall take such appropriate steps as are necessary to allow the Contractor to perform Work under the Agreement, and appropriate extensions of time and change orders will be given to the Contractor, pursuant to the Agreement, to compensate for any delays and extra costs caused by separate contractor's performance.

## **XII INDEMNIFICATION**

- 12.1. To the fullest extent permitted by Laws and Regulations, the Contractor shall indemnify and hold harmless the Owner, the Engineer, the Engineer's Consultants and officers, directors, employees, agents and other consultants of each and any of them from and against all claims, costs, losses and damages (including, but not limited to all fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs) caused by, arising out of or resulting from the performance of the Work, provided that any such claim, cost, loss or damage: (i) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, and (ii) is caused in whole or in part by any negligent act, errors, omissions, recklessness, or intentionally wrongful conduct of the Contractor, any Subcontractor, any supplier, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, regardless of whether or not caused in part by any negligence or omission of a person or entity indemnified hereunder or whether liability is imposed upon such indemnified party by Laws and Regulations regardless of the negligence of any such person or entity.
- 12.2. In any and all claims against the Owner or any of the Owner's consultants, agents, officers, directors, or employees by any employee (or the survivor or personal representative of such employee) of the Contractor, any Subcontractor, any supplier, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the Contractor or any such Subcontractor, supplier or other person or organization under workers' compensation acts, disability benefit acts or other employee benefit acts.
- 12.3. The indemnification obligations of the Contractor shall not extend to the damages caused by the Owner and the Owner's consultants, officers, directors, employees or agents resulting from the negligent preparation or approval of, Drawings, or Specifications.

End of Section

## SECTION 109

### MEASUREMENT AND PAYMENT

#### I. PAYMENT PROCEDURES

##### 1.1. Incidental Items

- A. There are numerous incidental items of work that are required to complete the Project. While these items may not be specifically mentioned or illustrated by the Contract Documents and there may be no specific pay items listed for them, the Contractor will be required to perform those incidental tasks that can be anticipated through inspection of the Contract Documents, inspection of the construction area, and experience in this class of construction.
- B. Items considered incidental work shall not be measured for payment or paid for as such unless specified as unit price by items on the bid form. These items and their costs shall be included in the unit prices or lump sum bid for the pay items unless bid separately. Incidental items include but are not limited to the following:
1. Allaying dust and mud
  2. Daily cleanup
  3. Excavation and dewatering
  4. Furnishing, hauling, placing, manipulating, and compacting material
  5. Location of existing utilities
  6. Material royalties
  7. Mobilization and demobilization
  8. Offsite disposal of excess excavated, surplus and remnant excavated materials
  9. Permits, unless provided by the Owner
  10. Removal and replacement of existing signs, fences, mail boxes, and similar existing improvements
  11. Site restoration and cleanup
  12. Site security
  13. Stakeout and surveying
  14. Traffic control
  15. Minor relocation of buried cables, gas lines, water lines, sewer lines, or similar utility lines 2 inches and smaller in diameter
  16. Construction entrances
  17. Pavement marking
  18. Final Surface restoration
  19. Top soil and seeding
  20. Clearing and grubbing
  21. Protection of existing utilities and other facilities.
  22. ***VDOT Land Use Permit Compliance***
  23. ***Shoulder tie-in to restored pavement***
  24. ***Connection to existing and newly constructed mains and force main***
  25. ***Drainage feature restoration including culvert end-walls, swales, and paved swales***
  26. ***Record Drawings***
  27. ***Administrative items of every nature***

- C. ***While the technical specifications may establish measurement and payment provisions for various incidental items of work, for the purposes of this Contract, work items described in the technical specifications or on the Drawings, but not identified as unit price pay items on the Bid Form, whether used or unused in completing the Work, are incidental to the Work and will not be measured or paid for separately.***

## 1.2 Schedule of Values for Lump Sum Bid Items

- A. Within fourteen (14) days after the Effective Date of the Agreement, the Contractor shall submit a schedule of values for all of the Work which shall include quantities and prices of items aggregating the Contract Price and shall subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction. Such prices shall include an appropriate amount of overhead and profit applicable to each item of Work. The Owner shall review the schedule and shall respond in writing to the Contractor within ten (10) Days either approving or disapproving the schedule. If the schedule of values is disapproved, the Contractor shall resubmit the schedule with revised value or additional substantiating data and the Owner shall either approve or disapprove the revised schedule within ten (10) Days. No payments shall be processed or approved until the schedule of values is approved by the Owner.

## 1.3 Application for Progress Payment by Contractor

- A. Unless otherwise provided in this Section, the Owner shall make monthly progress payments to the Contractor on the basis of a duly certified and approved Application for Payment for Work performed during the preceding calendar month as approved by the Owner.
- B. At least ten (10) Days before each partial progress payment (but not more often than once a month), the Contractor shall submit to the Owner an Application for Payment filled out and signed by the Contractor for the Work completed during the period covered by the partial progress payment estimate and supported by such data as is required by the Contract Documents.
- C. The schedule of values for lump sum items established as provided in Section 109-1.2 shall serve as the basis for progress payments and shall be incorporated into a form of Application for Payment acceptable to the Owner.

## 1.4 Payment for Material on Hand

If payment is requested on the basis of materials and equipment ***furnished by and purchased from AIRVAC, the vacuum system vendor***, not incorporated in the Work, but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall be accompanied by a bill of sale, invoice or other instrument documenting that the materials and equipment are free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance, all of which will be satisfactory to the Owner. ***No payment will be made for material or equipment stored on site unless furnished by and purchased from AIRVAC. Payment for such material and equipment shall be in the amount of the lesser of the invoice price paid for of the materials or 60% of the value specified on the approved Schedule of Values.*** The Owner, at its sole discretion, may not pay for stored materials without prejudice and without cause.



## 1.5 Review of Applications for Progress Payments

- A. The Owner shall, within ten (10) Days after receipt of each Application for Payment, make such investigations as deemed necessary to verify the accuracy of the Application for Payment and either accept the application as accurate and suitable for payment or return the Application to the Contractor indicating in writing the Owner's reasons for refusing payment. If payment is refused, the Contractor shall make the necessary corrections and resubmit the Application and the Owner shall have an additional ten (10) Days after receipt of the corrected Application for Payment from the Contractor to determine whether this Application is accurate and suitable for payment.
- B. The Owner shall, within 30 Days after acceptance of the Application for Payment, make payment to the Contractor. The Owner may refuse to make payment of the full amount because claims have been made against the Owner on account of the Contractor's performance or furnishing of the Work, or because Liens have been filed in connection with the Work, or because there are other claims entitling the Owner to a set-off against the payment. The Owner shall give the Contractor immediate written Notice stating the reasons for its failure to make payment.
- C. The Owner may also refuse to make payment of the full amount because there are other items entitling the Owner to retain set-offs from the amount recommended, including but not limited to:
  - 1. Owner compensation to the Engineer for actual costs for extra personnel hours for labor plus expenses because of the following Contractor caused events:
    - a. Witnessing re-testing of corrected or replaced defective work.
    - b. Return visits to manufacturing facilities to witness factory testing or re-testing.
    - c. Evaluation of proposed substitutes and in making changes to Contract Documents occasioned thereby.
    - d. Overtime worked by the Contractor necessitating the Engineer, Resident Project Representative (and support staff, if any), to work overtime.
  - 2. Liability for liquidated damages incurred by the Contractor as set forth in the Agreement.
  - 3. Loss to Owner caused by Contractor acts or omissions including, but not limited to:
    - a. Defective Work not remedied;
    - b. Claims filed or reasonable evidence indicating probable filing of claims against the Contractor;
    - c. Failure of the Contractor to make payments properly to subcontractors or for materials or labor;

- d. A reasonable doubt that the Project can be completed for the balance then unpaid;
  - e. Failure to maintain (each month) the record set of Drawings and Specifications. Failure to provide the Owner with record Drawings and Specifications within thirty (30) calendar Days from the date of the Substantial Completion;
  - f. Failure to periodically remove and dispose of accumulated debris, rubbish, and discarded/damaged materials;
  - g. Persistent failure to carry out the Work in accordance with the Contract Documents;
  - h. A reasonable doubt that the Work will be completed within the Contract Time.
4. Failure of the Contractor to submit an updated progress schedule or other required supporting documentation (if requested by the Owner) to the Owner with the monthly application for progress payment.

#### 1.6 Retained Funds

- A. The Owner shall retain five percent (5%) of the total amount of each partial progress payment to assure faithful performance of the Agreement by the Contractor. The Owner will release all retainage upon Final Payment.
- B. Pursuant to and in accordance with Section 2.2-4334 of the Code of Virginia, the Contractor may exercise the option to use the escrow account utilization procedure with respect to retained funds. The Contractor may do so by indicating its preference for this procedure in the appropriate space provided on the Bid Form.
  - 1. Should this option be selected, the Contractor shall execute the Escrow Agreement and shall submit same to the Owner in the manner prescribed by law. If the Escrow Agreement form is not submitted as noted, the Contractor shall forfeit such rights to the use of the escrow account utilization procedure.
  - 2. In order to have retained funds paid to an escrow account, the Escrow Agreement shall be executed by the Contractor, the escrow agent, and the surety, and shall be submitted by the Contractor to the Owner for approval by the Owner's attorney. The Contractor's escrow agent shall be a trust company, bank or savings institution with its principal office located in the Commonwealth of Virginia. The Escrow Agreement shall contain the complete address of the escrow agent and surety, and the executed Escrow Agreement will be authority for the Owner to make payment of retained funds to the Escrow Agent. After approving the Escrow Agreement, the Owner shall pay to the escrow agent the funds retained as provided herein except that funds retained for lack of progress or other deficiencies on the part of the Contractor shall not be paid to the Escrow Agent. The Escrow Agent may, in accordance with the terms of the Escrow Agreement, invest the funds paid into the escrow account and pay earnings on such investments to the Contractor or release

the funds to the Contractor provided that such funds are fully secured by approved securities.

3. Retained funds invested and securities held as collateral for retainage may be released only as and when directed by the Owner. When the Final Payment is paid, the Owner shall direct to the Contractor monies due as determined by the Owner. The Owner reserves the right to recall retained funds and to release retained funds to the surety upon receipt of written request from the Contractor or in the event of default.
4. The escrow account procedure shall apply to any contract for the sum of Two Hundred Thousand Dollars (\$200,000), or more, for construction of highways, roads, streets, bridges, parking lots, demolition, clearing, grading, excavating, paving, pile driving, miscellaneous drainage structures, and the installation of water, gas, sewer lines, and pumping stations.

#### 1.7 Conditions of Payment to Contractor

- A. All material and Work covered by partial progress payments shall thereupon become the sole property of the Owner, but this provision shall not be construed as relieving the Contractor from the sole responsibility for the safety and protection of all materials and Work upon which payments have been made or the restoration or replacement of any damaged or stolen Work or property or as a waiver of the right of the Owner to require the fulfillment of all the terms of the Agreement
- B. Prior to Substantial Completion, the Owner, with the concurrence of the Contractor, may use any completed or substantially completed portions of the Work. Such use shall not constitute an acceptance of such portions of the Work.
- C. The Owner shall have the right to enter the premises for the purpose of doing work not covered by the Contract Documents. This provision shall not be construed as relieving the Contractor of the sole responsibility for the care and protection of the Work, or the restoration of any damaged Work except such as may be caused by agents or employees of the Owner.
- D. The Contractor shall indemnify and save the Owner or the Owner's agents harmless from all claims growing out of the lawful demands of Subcontractors, laborers, workmen, mechanics, material men, and furnishers of machinery and parts thereof, equipment, tools and all supplies, incurred in the furtherance of the performance of the Work. The Contractor shall, at the Owner's request, furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged, or waived. If the Contractor fails to do so the Owner may, after having notified the Contractor, either pay unpaid bills or withhold from the Contractor's unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the Contractor shall be resumed, in accordance with the terms of the Contract Documents but in no event shall the provisions of this Section be construed to impose any obligations upon the Owner to either Contractor, the Surety, or any third party. In paying any unpaid bills of the Contractor, any payment so made by the Owner shall be considered as a payment made under the Contract Documents by the Owner to the Contractor and the Owner shall not be liable to the Contractor for any such payments made in good faith.

- E. The Contractor shall take one of the two following actions within seven (7) days after receipt of amounts paid to the Contractor by the Owner for Work performed by the Subcontractor under the Agreement:
1. Pay to the Subcontractor the proportionate share of the total payment received attributable to the Work performed by the Subcontractor under the Agreement; or
  2. Notify the Owner and Subcontractor, in writing, of his intention to withhold all or a part of the Subcontractor's payment with the reason for nonpayment.
- F. All contracts awarded by the Contractor to a Subcontractor for any portion of the Work shall include:
1. An interest clause that obligates the Contractor to pay interest to the Subcontractor on all amounts owed by the Contractor that remain unpaid after seven (7) days following receipt by the Contractor of payment from the Owner for Work performed by the Subcontractor under that contract, except for amounts withheld as allowed.
  2. An interest rate clause stating, "Unless otherwise provided under the terms of this contract, interest shall accrue at the rate of one percent per month."
  3. A payment clause that requires (i) individual contractors to provide their social security numbers and (ii) proprietorships, partnerships, limited liability companies and corporations to provide their federal employer identification numbers.
- G. The Contractor shall include in each of its subcontracts a provision requiring each Subcontractor to include or otherwise be subject to the same payment and interest requirements as specified in Section 1.7 above, with respect to each lower-tier Subcontractor.
- H. A Contractor's obligation to pay an interest charge to a Subcontractor pursuant to the payment clause in this section may not be construed to be an obligation of the Owner. A contract modification may not be made for the purpose of providing reimbursement for such interest charge. A cost reimbursement claim may not include any amount for reimbursement for such interest charge.

## 1.8 Final Payment

After the Contractor has completed all corrective Work as determined by a final inspection to the satisfaction of the Owner and has delivered all maintenance and operations manuals, schedules, guarantees, bonds, certificates of inspection, and other documents as required by the Contract Documents, the Contractor may make application for final payment following the procedure for partial progress payments. Within thirty (30) days after approval, the Owner shall pay to the Contractor the amount stated, less all prior payments and advances to or for the account of the Contractor. All prior estimates and payments including those relating to extra Work shall be subject to correction by this payment, which is called the Final Payment. The Contractor's obligation to perform the Work and complete the Project in accordance with the Contract Documents shall be absolute. Neither approval of any progress or Final Payment by the Owner nor the issuance of a Certificate of Substantial Completion, nor any payment by Owner to Contractor under the Contract Documents, nor any use or occupancy of the Project or any part thereof by Owner, nor any act of

acceptance by Owner nor any failure to do so, nor any correction of defective Work by Owner shall constitute an acceptance of Work not in accordance with the Contract Documents.

#### 1.9 Acceptance of Final Payment Constitutes Release

The acceptance by the Contractor of the Final Payment shall be and operate as a release to the Owner of all claims and of all liability to the Contractor for all things done or furnished in connection with this Work excepting the Contractor's claims for interest upon Final Payment, should this payment be improperly delayed. No payment, final or otherwise, or partial or entire use or occupancy of the Work by the Owner, shall constitute an acceptance of any Work or materials not in accordance with the Contract Documents, nor shall the same relieve the Contractor of responsibility for faulty materials or workmanship or operate to release the Contractor or his Surety from any obligation under the Contract, the Performance Bond and Payment Bond.

#### 1.10 Assignments

Neither party to the Agreement shall sell, transfer, assign or otherwise dispose of the whole or any parts of the Agreement or of the right, title or interest therein without the prior written consent of the other, nor shall the Contractor assign any monies due or to become due hereunder, without the previous written consent of the Owner.

## II CHANGE ORDERS AND FIELD ORDERS

2.1. The Owner may at any time, as the need arises, order changes within the scope of the Work without invalidating the Agreement. If such changes increase or decrease the amount due under the Contract Documents, or in the time required for performance of the Work, an equitable adjustment shall be authorized by Change Order.

2.2. The Contract Price and Contract Time may be changed only by a Change Order, approved by the Owner prior to the performance of the Work by the Contractor or granted by the Owner upon written Notice by Contractor submitted in accordance with Section 104-5.2 and 5.3 or Section 105-16.2. The value of any Work covered by a Change Order or of any claim for increase or decrease in the Contract Price or Contract Time shall be established in accordance with the following methods in the order of precedence listed below:

- A. established contract unit prices;
- B. an agreed lump sum or unit price established by direct negotiation between the Contractor and the Owner; or,
- C. In the event that any changes in the Work are not settled under A. and B. above, the Contract Price shall be adjusted in accordance with the following:
  - 1. In any case such change involves extra Work which is performed by the Contractor, the Contract Price shall be increased by (a) the direct cost of such Work, as mutually agreed upon or otherwise as determined in accordance with the Contract Documents, and (b) ten percent (10%) of the amount of (a) to cover Contractor's additional job (field and home office) overhead, and (c) five percent (5%) of the sum of (a) and (b) to cover Contractor's additional job profit.
  - 2. In any case such change involves extra Work which is performed by a Subcontractor, the Contract Price shall be increased by (a) the amount paid by the

Contractor to the Subcontractor for such extra Work, and (b) seven and one-half percent (7-1/2%) of the amount paid to the Subcontractor to cover the Contractor's additional job (field and home office) overhead and (c) five percent (5%) of the sum of (a) and (b) to cover Contractor's additional job profit. On Work performed by the Subcontractor, the Subcontractor shall be allowed overhead and profit in accordance with paragraph C(1) above.

3. In the case of either subparagraph 1 or 2 above, the Contract Price shall also be increased by the corresponding increase in the cost of the Contractor's performance bond.
- 2.3. It is the Contractor's responsibility to notify his Surety of any change affecting the general scope of the Work or change in the Contract Price and/or Contract Time so that the amount of the applicable Bonds shall be adjusted accordingly. The Contractor shall furnish proof of such adjustment to the Owner.
- 2.4. Whenever changes, alterations, additions, omissions, or revisions are called for by the Owner for which the necessary Drawings and details have been completed and submitted to the Contractor, or when changes, alterations, additions or omissions are clearly given in writing to the Contractor, the Contractor is to submit an itemized statement of quantities and prices incidental to such revisions, changes, additions and omissions.
- 2.5. The Owner may at any time order minor changes within the scope of Work and by issuing a Field Order. The Contractor shall proceed with the performance of any changes in the Work so ordered by the Owner unless the Contractor believes that such Field Order entitles the Contractor to a change in Contract Price or Time or both, in which event the Contractor shall give the Owner written Notice thereof within seven (7) calendar days after the receipt of the ordered change. The Contractor shall not execute such changes pending the receipt of an executed Change Order or further instruction from the Owner. The Owner shall respond to such written Notice from Contractor within twenty-one (21) calendar days after receipt.
- 2.6. If any item in the Agreement is determined to be unnecessary for the proper completion of the Work contracted, the Owner may, upon written Notice to the Contractor, eliminate such item from the Agreement. Payment will not be made for such item except that the Contractor shall be compensated for the actual cost of any Work performed for the installation of such item and the net cost of materials purchased, including freight and tax costs, as evidenced by invoice. No additional compensation will be made for overhead or anticipated profit.
- 2.7. The Contractor shall not be entitled to any adjustment in the Contract Price or Contract Time due to any condition or alleged condition if:
  - A. The Contractor knew of the existence of such conditions at the time the Contractor made a final commitment to the Owner in respect of Contract Price and Contract Time by the submission of a Bid; or
  - B. The existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test or study of the site and contiguous areas required by the Contract Documents to be conducted by or for the Contractor prior to the Contractor making such final commitment; or
  - C. The Contractor failed to give the written Notice within the time and as required by Section 104-5.2 and 5.3 or Section 105-16.2.

### III CHANGE ORDER

No. \_\_\_\_\_

DATE OF ISSUANCE \_\_\_\_\_ EFFECTIVE DATE \_\_\_\_\_

OWNER \_\_\_\_\_

CONTRACTOR \_\_\_\_\_

Contract \_\_\_\_\_

Project \_\_\_\_\_

OWNER'S Contract No. \_\_\_\_\_ ENGINEER'S Contract No. \_\_\_\_\_

ENGINEER \_\_\_\_\_

You are directed to make the following changes in the Contract Documents:

Description:

Reason for Change Order:

Attachments: (List documents supporting change)

CHANGE IN CONTRACT PRICE:
Original Contract Price \$ _____
Net Increase (Decrease) from previous Change Orders No. _____ to _____: \$ _____
Contract Price prior to this Change Order: \$ _____
Net increase (decrease) of this Change Order: \$ _____
Contract Price with all approved Change Orders: \$ _____

CHANGE IN CONTRACT TIMES:
Original Contract Times: Final Completion: _____ (days or dates)
Net change from previous Change Orders No. _____ to No. _____: Final Completion: _____ (days)
Contract Times prior to this Change Order: Final Completion: _____ (days or dates)
Net increase (decrease) of this Change Order: Final Completion: _____ (days)
Contract Times with all approved Change Orders: Final Completion: _____ (days or dates)

RECOMMENDED:

APPROVED:

ACCEPTED:

By: \_\_\_\_\_  
ENGINEER(Authorized Signature)

By: \_\_\_\_\_  
OWNER(Authorized Signature)

By: \_\_\_\_\_  
CONTRACTOR(Authorized Signature)

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

#### IV APPLICATION FOR PAYMENT

##### PROJECT SUMMARY

Date: \_\_\_\_\_ Contractor's Name: \_\_\_\_\_  
Project Name: \_\_\_\_\_ Project Number: \_\_\_\_\_

Original Contract Amount: \$ \_\_\_\_\_  
Original Contract Time: \_\_\_\_\_ days  
Adjusted Contract Amount (by approved Change Orders): \$ \_\_\_\_\_  
Adjusted Contract Time (by approved Change Orders): \_\_\_\_\_ days  
Adjusted Contract Completion Date: \_\_\_\_\_

##### STATUS OF WORK PERFORMED

Total Value of Original Work Performed to Date: \$ \_\_\_\_\_  
Total Value of Change Order Work Performed to Date (with attachment): \$ \_\_\_\_\_  
Total Value of All Work Performed to Date: \$ \_\_\_\_\_  
Value of Materials Stored (Attach Statement): \$ \_\_\_\_\_  
Less \_\_\_\_\_% Retained by Owner: \$ \_\_\_\_\_  
Net Amount Earned on Contract to Date: \$ \_\_\_\_\_  
Less Amount of Previous Payments Approved: \$ \_\_\_\_\_

**BALANCE DUE THIS PAYMENT:** \$ \_\_\_\_\_

Value of Work Remaining to be Completed: \$ \_\_\_\_\_  
Percentage Complete to Date (Value/Time): \_\_\_\_\_ % \_\_\_\_\_ %

##### CERTIFICATION OF CONTRACTOR

I certify to the best of my knowledge and belief that all items and amounts on the face of the attached estimate and invoice and this Application for Payment are correct; that all Work has been performed and/or material supplied in full accordance with the terms and conditions of the Contract Documents, including all duly authorized deviations, substitutions, alterations, additions and/or deletions; that the foregoing is a true and correct statement of the Contract Price up to and including the last day of the period covered by this estimate and Application for Payment; that no part of the "BALANCE DUE THIS PAYMENT" has been received; that all previous Progress Payments received on this Agreement have been applied by the undersigned to discharge in full all obligations of the undersigned incurred in connection with the Work covered by prior applications for payment under this Agreement; and that all materials and equipment incorporated in said payment or otherwise listed in or covered by this Application for Payment are free and clear of all liens, claims, security interest and encumbrances.

##### APPROVALS

This Application for Payment has been checked, verified and approved for payment by:

Contractor	By	Title	Date
Resident Project Rep.	By	Title	Date
Engineer	By	Title	Date
Owner	By	Title	Date



## V ESCROW AGREEMENT (IFB No. 1549)

THIS ESCROW AGREEMENT, made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by, between and among the County of York, Virginia (Owner) and \_\_\_\_\_ (Contractor), and \_\_\_\_\_ (Bank), a trust company, bank, or savings and loan institution with its principal office located in the Commonwealth and \_\_\_\_\_ (Surety), provides:

- 5.1. The Owner and the Contractor have entered into an Agreement with respect to a Project titled York Point Sanitary Sewer Project, Contract 1 – Linework – Phase I (the Agreement). This Escrow Agreement is pursuant to, but in no way amends or modifies the Agreement. Payments made hereunder or the release of funds from escrow shall not be deemed approval or acceptance of performance by the Contractor.
- 5.2. In order to assure full and satisfactory performance by the Contractor of its obligations under the Agreement, the Owner is entitled to retain certain amounts otherwise due the Contractor, known as retainage. The Contractor has, with the approval of the Owner, elected to have such retainage held in escrow by the Bank. This document sets forth the terms of the escrow. The Bank shall not be deemed a party to, bound by, or required to inquire into the terms of the Agreement or any other instrument or agreement between the Owner and the Contractor.
- 5.3. The Owner shall from time to time pursuant to its Agreement pay to the Bank amounts retained by it under the Agreement. Except as to amounts actually withdrawn from escrow by the Owner, the Contractor shall look solely to the Bank for the payment of funds retained under the Agreement and paid by the Owner to the Bank.

The risk of loss by diminution of the principal of any funds invested under the terms of this Escrow Agreement shall be solely upon the Contractor.

- 5.4. Funds and securities held by the Bank pursuant to this Escrow Agreement shall not be subject to levy, garnishment, attachment, lien or other process whatsoever. The Contractor agrees not to assign, pledge, discount, sell or otherwise transfer or dispose of its interest in the escrow account or any part thereof, except to the Surety.
- 5.5. The following securities, and none other, are approved securities for all purposes of this Escrow Agreement:
  - A. Unites States Treasury Bonds, United States Treasury Notes, Unites States Treasury Certificates of Indebtedness or United States Treasury Bills;
  - B. Bonds, notes and other evidences of indebtedness unconditionally guaranteed as to the payment of principal and interest by the United States.
  - C. Bonds or notes of the Commonwealth of Virginia;
  - D. Bonds of any political subdivision of the Commonwealth of Virginia, if such bonds carried, at the time of purchase by the Bank or deposit by the Contractor, a Standard and Poor's or Moody's Investors Service rating of at least "A"; and,
  - E. Certificates of deposit issued by commercial banks located within the Commonwealth, including, but not limited to, those insured by the Bank and its affiliates.

- F. Any bonds, notes, or other evidences of indebtedness listed in Paragraphs A through C may be purchased pursuant to a repurchase agreement with a bank, within or without the Commonwealth of Virginia having a combined capital, surplus and undivided profit of not less than \$25,000,000, provided the obligation of the Bank to repurchase is within the time limitations established for investments as set forth herein. The repurchase agreement shall be considered a purchase of such securities even if title, and/or possession of such securities is not transferred to the Escrow Agent, so long as the repurchase obligation of the bank is collateralized by the securities themselves, and the securities have on the date of the repurchase agreement a fair market value equal to at least 100% of the amount of the repurchase obligation of the Bank and the securities are held by a third party, and segregated from other securities owned by the Bank.

No security is approved hereunder which matures more than five years after the date of its purchase by the Bank or deposit by the Contractor.

- 5.6. The Contractor may from time to time withdraw the whole or any portion of the escrowed funds by depositing with the Bank securities approved, in writing, by the Owner in an amount equal to, or in excess of, the amount so withdrawn. Any securities so deposited or withdrawn shall be valued at such time of deposit or withdrawal at the lower par or market value, the latter as determined by the Bank. Any securities so deposited shall thereupon become a part of the escrowed fund.

Upon receipt of a direction signed by the chief administrative and financial official of the Owner, the Bank shall pay the principal of the fund, or any specified amount thereof, to the Owner. Such payment shall be made as soon as is practicable after receipt of the direction.

Upon receipt of a direction signed by either the chief administrative or the chief financial official on behalf of the Owner, the Bank shall pay and deliver the principal of the fund, or any specified portion thereof, to the Contractor, in cash or in kind, as may be specified by the Contractor. Such payment and delivery shall be made as soon as is practicable after receipt of the direction.

- 5.7. For its services hereunder the Bank shall be entitled to a reasonable fee in accordance with its published schedule of fees or as may be agreed upon by the Bank and the Contractor. Such fee and any other costs of administration of this Escrow Agreement shall be paid from the income earned upon the escrow fund and, if such income is not sufficient to pay the same, by the Contractor.

Under no circumstances shall the Owner be responsible to the Bank for any fee or costs of administering this Escrow Agreement, account, or escrow fund.

- 5.8. The net income earned and received upon the principal of the escrow fund shall be paid over to the Contractor in quarterly or more frequent installments. Until so paid or applied to pay the Bank's fee or any other costs of administration such income shall be deemed a part of the principal of the fund. All income earned shall be reported by the Bank to the Internal Revenue Service and other taxing authorities on the Contractor's Tax. I.D. Number, except for interest withdrawn by the Owner pursuant to paragraph IV.
- 5.9. The Surety undertakes no obligation hereby but joins in the escrow Agreement for the sole purpose of acknowledging that its obligations as surety for the Contractor's performance of the Agreement are not affected hereby.

WITNESS the following signatures, all as of the day and year first above written.

OWNER:

\_\_\_\_\_  
Name of Owner

By: \_\_\_\_\_  
Name

\_\_\_\_\_  
Title

CONTRACTOR:

\_\_\_\_\_  
Name of Contractor

\_\_\_\_\_  
Contractor's Tax I.D. Number

By: \_\_\_\_\_  
Officer, Partner, or Owner

BANK:

\_\_\_\_\_  
Name of Bank

\_\_\_\_\_  
Mailing Address for Payments

\_\_\_\_\_  
Account Number

By: \_\_\_\_\_  
President/Vice-President

SURETY:

\_\_\_\_\_  
Name of Surety

By \_\_\_\_\_  
Attorney-in-Fact

**VI AFFIDAVIT OF PAYMENT OF CLAIMS**

BY: \_\_\_\_\_ (Contractor)

THIS DAY \_\_\_\_\_ personally appeared before me, \_\_\_\_\_, a Notary Public in and for the City/County/State of Virginia, and being by me first duly sworn states that all Subcontractors and suppliers of labor and materials have been paid all sums due them to date for work performed or materials furnished in the performance of the Agreement between:

\_\_\_\_\_ (Owner)

and \_\_\_\_\_ (Contractor)

dated \_\_\_\_\_, 20\_\_\_\_, for the construction of \_\_\_\_\_

\_\_\_\_\_ or arrangements have been made by the Contractor satisfactory to such Subcontractors and suppliers with respect to the payments of such sums as may be due them by the Contractor.

\_\_\_\_\_  
CONTRACTOR

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

DATE: \_\_\_\_\_

Subscribed and sworn to before me this  
\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

My commission expires on the  
\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
NOTARY PUBLIC

\_\_\_\_\_  
SEAL OF CONTRACTOR

\_\_\_\_\_  
NOTARY SEAL

## VII CERTIFICATE OF SUBSTANTIAL COMPLETION

Project Description: York Point Sanitary Sewer Project No \_\_\_\_\_  
Project, Contract 1 – Linework Other: \_\_\_\_\_  
Location: County of York, Virginia Completion Date: \_\_\_\_\_  
Contract For: \_\_\_\_\_ Contract Date: \_\_\_\_\_  
Owner: County of York, Virginia Contractor: \_\_\_\_\_

This Certificate of Substantial Completion applies to all Work under the Contract Documents or to the following specified parts thereof:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TO WIT: The Owner and Contractor are hereby advised that the work to which this certificate applies has been inspected by authorized representatives of the Owner, Contractor, and Engineer, and that all Work is hereby declared to be substantially complete in accordance with the Contract Documents on:

\_\_\_\_\_  
Date of Substantial Completion

A tentative list of items to be completed or corrected is attached hereto. This list may not be all-inclusive and the failure to include an item in it does not alter the responsibility of the CONTRACTOR to complete all items of the Work in accordance with the Contract Documents. When this certificate applies to a specified part of the Work, the items in this tentative list shall be completed or corrected by the CONTRACTOR within \_\_\_\_\_ days of the above date of substantial completion. The date of substantial completion is the date which all guarantees and warranties begin, except as follows:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

This certificate is issued, accepted, and acknowledged by:

_____ Engineer	By _____	Title _____	Date _____
_____ Contractor	By _____	Title _____	Date _____
_____ Owner	By _____	Title _____	Date _____

**VIII STATEMENT OF SURETY COMPANY**

IN ACCORDANCE with the provisions of the AGREEMENT dated \_\_\_\_\_, 20\_\_\_\_,

BETWEEN \_\_\_\_\_ County of York, Virginia  
(OWNER)

AND \_\_\_\_\_  
(CONTRACTOR)

THE \_\_\_\_\_  
(SURETY)

SURETY on the Material and Labor Payment BOND of:

\_\_\_\_\_  
(CONTRACTOR)

after a careful examination of the books and records of said CONTRACTOR or after receipt of an affidavit from CONTRACTOR, which examination of affidavit satisfies SURETY that all claims for labor and materials have been satisfactorily settled, hereby approves of the final payment to the said \_\_\_\_\_, CONTRACTOR, and by these presents witnesseth that payment to the CONTRACTOR of the final estimates shall not relieve SURETY of any of its obligations to

County of York, Virginia  
(OWNER)

as set forth in the said SURETY COMPANY'S BOND.

IN WITNESS WHEREOF, said SURETY has hereunto set its hand and seal this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

ATTEST:

(SEAL) \_\_\_\_\_ BY \_\_\_\_\_  
PRESIDENT

NOTE: This statement, if executed by any person other than the President or Vice President of the Company, shall be accompanied by a certificate of even date showing authority conferred upon the person so signing to execute such instruments on behalf of the Company represented.

**IX CONTRACTOR'S RELEASE**

KNOW ALL MEN BY THESE PRESENTS THAT:

\_\_\_\_\_ (Contractor) \_\_\_\_\_ of \_\_\_\_\_ County/City and State of \_\_\_\_\_ does hereby acknowledge that he has received this day from the **County of York, Virginia** the sum of One Dollar (\$1.00) and other valuable consideration in full satisfaction and payment of all sums of money owing, payable and belonging to \_\_\_\_\_ (Contractor) Dated \_\_\_\_\_, 20\_\_\_\_.

NOW, THEREFORE, the said \_\_\_\_\_ (Contractor) \_\_\_\_\_ (for myself, my heirs, executors and administrators; for itself, its successors and assigns) do by these presents remise, release, quitclaim and forever discharge the said **County of York, Virginia**, Owner, its successors and assigns, of and from all claims and demands arising from or in connection with the said Agreement dated \_\_\_\_\_, 20\_\_\_\_, and of and from all, and all manner of action and actions, cause and causes of action and actions, suits, debts, dues, duties, sum and sums of money accounts, reckonings, bonds, bills, specialties, covenants, contracts, agreements, promises, variances, damages, judgements, extents, executions, claims and demand, whatsoever in law or equity, or otherwise which against the said **County of York, Virginia**, Owner, its successors and assigns ever had, now have, or which (I, my heirs, executors, or administrators; it, its successors and assigns) hereafter can, shall or may have, for upon or by reason for any matter, cause or thing whatsoever, from the beginning of the world to the date of these presents.

IN WITNESS WHEREOF \_\_\_\_\_ (Contractor) \_\_\_\_\_ has caused these presents to be duly executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

Signed, Sealed and Delivered  
in the Presence of:

\_\_\_\_\_ CONTRACTOR \_\_\_\_\_  
(SEAL)

BY: \_\_\_\_\_  
\_\_\_\_\_  
Title

\_\_\_\_\_  
ATTEST:

\_\_\_\_\_  
SECRETARY

**X. MANHOLE/STRUCTURE PROTECTIVE COATING POST INSTALLATION CERTIFICATION**  
*(Submit prior to Substantial Completion)*

**Project Name** \_\_\_\_\_  
**Owner** \_\_\_\_\_  
**Contractor** \_\_\_\_\_  
**Agreement No.** \_\_\_\_\_

Applicator _____ Company Name: _____ Address: _____ Telephone: _____	I certify that the coating system identified below was installed in conformance with the manufacturer's recommendations at the conditions listed below.  <div style="display: flex; justify-content: space-between;"> <span>_____</span> <span>_____</span> </div> <div style="display: flex; justify-content: space-between;"> <span>Applicator</span> <span>Date</span> </div>
---	--

This applicator is certified by _____, Coatings Manufacturer, located at _____ <div style="text-align: center;"><i>(Address)</i></div> and approved in the proper application of the specified coating system. The materials and workmanship for Type B (80 mil) coatings systems are warranted for a period of five (5) years from the date of Substantial Completion of the project.  <div style="display: flex; justify-content: space-between;"> <span>_____</span> <span>_____</span> </div> <div style="display: flex; justify-content: space-between;"> <span>Coatings Manufacturer Authorized Representative/Title</span> <span>Date</span> </div>
---

**Coating System:** \_\_\_\_\_  
 (Use Separate Form For Each Coating System Applied)

Date Applied	Manhole/Structure Number	Actual Substrate Conditions			Ambient Air Conditions		Min/Max Recoat (Hrs/Hrs)	Dry Film Thickness	
		CSP Rating	Temp. (°F)	Moisture (Yes/No)	Temp. (°F)	Humidity (%)		(Avg)	(Min)





## SECTION 110

### SPECIAL PROVISIONS

#### I. CONSTRUCTION DRAWINGS:

Plans are the property of the Owner and shall not be used for any purposes other than those specified in these Contract Documents.

#### II. HAMPTON ROADS PLANNING DISTRICT COMMISSION REGIONAL CONSTRUCTION STANDARDS:

Prior to Construction, the Contractor is required to obtain a copy of the Hampton Roads Planning District Commission Regional Construction Standards (Fourth Edition), from the Hampton Roads Planning District Commission located in Chesapeake, Virginia.

The following modifications, additions, or deletions to the HRPDC *Regional Construction Standards* are hereby incorporated into the contract documents.

#### III. SPECIFIC REVISIONS

- 3.1 Subsurface Exploration – Appendix A of the Supplemental Technical Specifications includes subsurface boring data. The Contractor shall be responsible for conducting any further subsurface investigations that he deems necessary.

Geotechnical Exploration and Analysis Information included, in whole or in part, in these Bidding Documents gives the physical data on sub-surface conditions as obtained for the Owner only, and in no event is this information to be considered as part of the Contract. It is expressly understood that neither the Owner nor the Engineer will be responsible for any interpretation or conclusions drawn therefrom by the Contractor.

Bidders are cautioned that the subsurface boring data was used for general design purposes only and may be inadequate for the purposes of bidding of the Contract items. It is strongly recommended that the Contractor perform his own subsurface investigation(s) to the extent necessary to satisfy himself as to the sub-surface conditions. It is the Contractor's responsibility to thoroughly investigate the site and under no circumstance is the Contractor to rely on the sub-surface information that was obtained for the information of the Owner.

- 3.2 Supplementary Technical Specifications – Additional technical specifications are provided to supplement the Hampton Roads Regional Construction Standards for this project. These Supplementary Technical Specifications supercede the Hampton Roads Regional Construction Standards where applicable. These Supplementary Technical Specifications include the following sections:

Section 320	Pavement Restoration
Section 01151	Measurement and Payment
Section 02700	Vacuum Sewer Mains and Crossovers and Division Valves
Section 02705	Vacuum Valves, Valve Pits and Collection Sumps
Section 02710	Testing Vacuum Piping System
Appendix A	Subsurface Exploration and Geotechnical Evaluation

### 3.3 STANDARD DETAILS

- A. The Details listed below and shown on the Drawings replace applicable Standard Details found in the Regional Standards:

<u>Applicable Replacement Detail Title (where shown)</u>	<u>Regional Construction Standard Detail No</u>
Pipe Bedding Details (Sheet 9 of 31)	EW_01
Trench Width Detail for Payment of Contingent Items (Sheet 9 of 31)	EW_03
Typical Manual Air Relief Assembly (Sheet 9 of 31)	WS_03
Blow-off Assembly (Sheet 9 of 31)	WD_05
Standard Fire Hydrant Setting (Type I) (Sheet 9 of 31)	WD_06
Type III Fire Hydrant Setting (Sheet 9 of 31)	WD_08
Water Valve Box (Sheet 9 of 31)	WS_01 (Water)

### 3.4 MEASUREMENT AND PAYMENT

- A. Measurement and Payment will be in accordance with the supplemental specification Section 01151.
- B. Delete the *Measurement For Payment* Sections established under *Part III* of the following Sections of the Regional Construction Standards:

Division	Section	Description
3	301	Clearing and Grubbing
3	302	Drainage Structures
3	303	Earthwork
3	305	Subgrade and Shoulders
3	309	Aggregate Base Course
3	310	Tack and Prime Coat
3	313	Asphalt Surface Treatment
3	315	Asphalt Concrete Pavement (NON SUPERPAVE)
3	315A	Asphalt Concrete Pavement (SUPERPAVE)
3	317	Pavement Patching
4	406	Reinforcing Steel
4	414	Riprap
5	501	Underdrains
5	502	Concrete Items
5	505	Guardrail and Steel Median Barriers
5	507	Fences
5	510	Relocating or Modifying Existing Miscellaneous Items
5	511	Allaying Dust
5	512	Maintaining Traffic
5	513	Mobilization
5	515	Milling Pavement
5	521	Pavers
5	530	Abandonment of Existing Pipelines and Structures
6	602	Topsoil

Division	Section	Description
6	603	Seeding
6	604	Sodding
6	605	Planting
6	608	Mowing
7	700	Traffic Control Devices
7	704	Pavement Markings and Markers
8	801	Water Distribution Systems
8	802	Sanitary Gravity Sewer Systems
8	803	Sanitary Force Main Systems
8	804	Boring and Jacking
8	805	Separation of Water Mains and Sewers
8	806	Horizontal Directional Drilling
8	810	Sewer Line Cleaning
8	811	Television Inspection
8	812	Bypass Pumping
8	813	Pipe Rehabilitation by Cured-in-Place Method
8	814	Pipe Rehabilitation by Fold-and-Form Method
8	816	Sewer Pipe Joint Testing
8	817	Chemical Grouting
8	818	Point Repair by Excavation
8	819	Insitu Structural Point Repair
8	820	Insitu Point Repair by Sectional Lining
8	821	Sanitary Sewer Service Reconnections
8	822	Manhole Rehabilitation

### 3.5 SECTION 200 – PRODUCTS AND MATERIALS

#### A. Clarifications:

1. Vacuum sewer piping, fittings and appurtenances are as specified in the following supplemental specification sections:

Section 02700 Vacuum Sewer Mains and Crossovers and Division Valves

Section 02705 Vacuum Valves, Valve Pits and Collection Sumps

Section 02710 Testing Vacuum Piping System

### SECTION 303 – EARTHWORK

#### A. Delete Paragraph E.4 of Part II, Subpart 2.2 in its entirety and replace with the following paragraph:

- “4. The entire depth of backfill material shall be placed in six inch loose measure lifts and compacted as required to achieve the compaction requirements specified in Paragraph E.7 below. The maximum size stone in the first foot of backfill above the pipe bedding shall not exceed one-inch in diameter and the maximum size stone in the remainder of the backfill shall not exceed two inches in diameter.”

- B. Delete Paragraph E.5 of Part II, Subpart 2.2 in its entirety and replace with the following paragraph:

*“4. Unused.”*

- C. Delete Paragraph E.7.d of Part II, Subpart 2.2 in its entirety and replace with the following paragraph:

*“d. The Contractor shall conduct compaction testing in accordance with the testing frequency established under paragraph E.7.e and the VDOT 1994 Road and Bridge Specifications, recompact and/or replace any backfill not achieving the specified percentage of maximum density, and submit compaction testing results to the Owner in accordance with Sections 105 and 200. The Owner reserves the right to conduct its own independent compaction testing and to require recompaction or replacement of any backfill not achieving the required percentage of maximum density as determined by the Contractor’s or Owner’s testing results.”*

- D. Insert the following paragraph after E.7.d of Part II, subpart 2.2:

*“e. For Work being performed within the pavement section (percent density requirements are specified elsewhere), compaction testing shall be as required by the Virginia Department of Transportation, but in no case shall the frequency of compaction testing be less than as follows:*

*For trench widths less than 4-feet,*

- 1. once on each side of the pipe on the initial lift of backfill at intervals not to exceed 100-feet.*
- 2. for lifts less than 12-inches, loose measure, one test every 300-feet, every other lift.*
- 3. for lifts exceeding 12-inch thickness, loose measure, one test for every 300-feet for each lift.*

*For trench widths exceeding 4-feet but less than 7-feet,*

- 1. once on each side of the pipe on the initial lift of backfill at intervals not to exceed 100-feet.*
- 2. for lifts less than 12-inches, loose measure, two tests every 300-feet, every other lift; space test locations at 1/3 points of the trench width.*
- 3. for lifts exceeding 12-inch thickness, loose measure, two tests for every 300-feet for each lift; space test locations at 1/3 points of the trench width.*

*For trench widths exceeding 7-feet,*

- 1. twice on each side of the pipe on the initial lift of backfill at intervals not to exceed 100-feet.*

2. *for lifts less than 12-inches, loose measure, three tests every 300-feet, every other lift; space test locations at 1/4 points of the trench width.*
3. *for lifts exceeding 12-inch thickness, loose measure, three tests for every 300-feet for each lift; space test locations at 1/4 points of the trench width.*

*The Owner reserves the right to require additional testing, at no additional cost, should the Contractor fail to achieve the required densities.*

*To prevent disturbing compacted materials, compaction testing shall not be performed until sheeting/shoring has been sufficiently raised/removed."*

### 3.6 SECTION 515 – MILLING PAVEMENT

- A. Delete Paragraph D of Part II, Subpart 2.1 in its entirety and replace with the following paragraph:

*"D. All asphalt surface material cut from the road shall be reshaped in accordance with the Contract Drawings and reused as base material in reconstructing the asphalt pavement."*

### 3.7 SECTION 802 – SANITARY GRAVITY SEWER SYSTEMS

- A. Delete Paragraph A of Part I, Subpart 1.2 in its entirety and replace with the following paragraph:

*"A. Provide a construction schedule for approval that includes the sequence of installation of the casings, pipelines, laterals and manholes. The construction schedule shall reflect the sequence of construction requirements established on the Construction Drawings."*

- B. Delete Paragraph B.1.d of Part II, Subpart 2.4 in its entirety and replace with the following paragraph:

*"d. Remote Camera/TV Inspection*

*Upon successful completion of the visual testing, deflection testing, and leakage testing the Contractor shall clean the gravity sewer lines for televising to be performed by the Owner. Sewer line cleaning shall be performed in accordance with Section 810. The Owner will perform initial television inspections for all new gravity sewer mains in accordance with Section 811. If the television inspection of the pipe reveals unclean conditions, poor alignment, displaced or cracked pipe, improper joints or slipped gaskets, or other defect(s), the Contractor shall correct the defect(s) and the pipe line shall be completely retested in accordance with Section 802 and cleaned and re-televised by the Contractor in accordance with this paragraph and Sections 810 and 811. All additional television inspections performed to verify defect repair shall be performed at the Contractor's expense. A videotape of inspected gravity sewer mains shall be provided to the Owner upon completion of the inspections. "*

3.8 SECTION 803 – SANITARY FORCE MAIN SYSTEMS

- A. Insert the following paragraph after Paragraph E of Part II, Subpart 2.3

*“F. All buried hardware shall be 304 stainless steel.”*

- B. Insert the following paragraph after Paragraph C of Part II, Subpart 2.5:

*“D. All buried hardware shall be 304 stainless steel.”*

END OF SECTION

## **SECTION 320**

### **PAVEMENT RESTORATION**

#### **I. GENERAL**

##### **1.1. DESCRIPTION OF WORK**

###### **A. Aggregate Base Course**

The contractor shall furnish all labor, supervision, material, tools, equipment, supplies, and services; and, shall perform all Work necessary for construction of aggregate base course in accordance with the requirements of these specifications and in conformity with the Contract Drawings or as directed by the Owner.

###### **B. Temporary Pavement**

The contractor shall furnish all labor, supervision, material, tools, equipment, supplies, and services; and, shall perform all Work necessary for construction of temporary asphalt pavement in accordance with the requirements of these specifications and in conformity with the Contract Drawings or as directed by the Owner.

###### **C. Reconstructed Asphalt Pavement**

The contractor shall furnish all labor, supervision, material, tools, equipment, supplies, and services; and, shall perform all Work necessary for reconstructing asphalt pavement in accordance with the requirements of these specifications and in conformity with the Contract Drawings or as directed by the Owner.

###### **D. Asphalt Concrete Pavement Overlay**

The contractor shall furnish all labor, supervision, material, tools, equipment, supplies, and services; and, shall perform all Work necessary for constructing of asphalt pavement overlay in accordance with the requirements of these specifications and in conformity with the Contract Drawings or as directed by the Owner.

###### **E. Restoration of Gravel Driveways**

The contractor shall furnish all labor, supervision, material, tools, equipment, supplies, and services; and, shall perform all Work necessary for restoration of gravel driveways in accordance with the requirements of these specifications and in conformity with the Contract Drawings or as directed by the Owner.

###### **F. Restoration of Asphalt Driveways**

The contractor shall furnish all labor, supervision, material, tools, equipment, supplies, and services; and, shall perform all Work necessary for restoration of asphalt driveways in accordance with the requirements of these specifications and in conformity with the Contract Drawings or as directed by the Owner.



G. Restoration of Concrete Driveways

The contractor shall furnish all labor, supervision, material, tools, equipment, supplies, and services; and, shall perform all Work necessary for restoration of concrete driveways in accordance with the requirements of these specifications and in conformity with the Contract Drawings or as directed by the Owner.

H. Construction of Improved Roadway Shoulders

The contractor shall furnish all labor, supervision, material, tools, equipment, supplies and services, and shall perform all Work necessary for construction of improved roadway shoulders in accordance with Section 305, as shown on the drawings or directed by the Owner.

1.2. SUBMITTALS

Submittals shall be made by the Contractor in accordance with the procedures set forth in Section 105 and as required under Sections 200, 305, 309, 310, 313, 315, 406, 502, 510 515, and 704 and the following:

Where used for measurement of weight based unit price pay items, the contractor shall deliver supplier provided delivery tickets to the Owner on a daily basis. The delivery tickets must document the suppliers name, truck identification number, source and type of the material, gross weight of the material and truck, tare weight, calculated material weight, the date and time of the delivery, the location of the delivery, and the project name. The Owner shall indicate in writing on each deliver ticket submitted by the Contractor verification of receipt and acceptance or rejection of the materials.

**II. EXECUTION**

Execution shall be in accordance with Sections 200, 305, 309, 310, 313, 315, 406, 502, 510, 515, and 704 and in conformity with the Contract Drawings or as directed by the Owner.

End of Section

## **SECTION 01151 - MEASUREMENT AND PAYMENT**

### **PART 1 – GENERAL**

#### **1.01 MEASUREMENT OF QUANTITIES**

- A. Measurement of quantities will be made by the Contractor in the presence of the Owner. The methods of measurement and computations used in determination of quantities of materials furnished and installed shall be those generally recognized as good engineering practice. Final payment request shall include all totals and approved change orders.
- B. Area measurements shall be measured on a horizontal plane on the ground surface. Pay quantities will not exceed plan dimensions except as approved by the Owner or his representative.
- C. Structure measurements shall be in accordance with the Contract Plans except as approved by the Owner or his representative.
- D. Linear foot measurements shall be measured along the horizontal plane of the ground or paved surface. Vertical foot measurements shall be measured along the vertical plane, perpendicular to the ground or paved surface. Pay quantities will not exceed plan dimensions except as approved by the Owner or his representative.
- E. Volume computations of excavation or fill shall use the average-end-area method.
- F. Weight measurement shall be made based on Owner approved supplier delivery tickets submitted documenting the amount of material delivered in each truckload and the specific location by recorded plan station utilized. Pay measurement for delivery weights shall not exceed plan dimensions and shall be based on the average bulk density of the material as established in the project documents.
- G. The term "Each" when used as an item of payment will mean complete payment for the unit of the work described.
- H. The word "Lump Sum" when used as an item of payment will mean complete payment for work described in the item including all materials, labor, and equipment necessary to complete the work in accordance with the Contract Plans and Specifications.
- I. The term "complete in place" will mean that the item of work shall be furnished and installed in accordance with the Contract Drawings and Specifications complete with all appurtenances necessary for the item to be used for its intended function, including all materials, labor and equipment.

#### **1.02 SCOPE OF PAYMENT**

- A. The Contractor will receive and accept compensation provided for in the Contract as full payment for furnishing all materials, labor, tools, and equipment and for performing all Work under the Contract in a complete and acceptable manner and for all risk, loss, damage, or expense of whatever character arising out of the nature of the Work or the prosecution thereof, subject to the provisions of the Contract Documents.
- B. If any unit price in the Bid Schedule requires that the said unit price cover and be considered compensation for certain work or material essential to the item, this same work or material will not also be measured or paid for under any other pay item identified on the Bid Form.

### 1.03 PAYMENT ITEMS

- A. Bid Item No. 1 – Mobilization, Complete. Mobilization will be measured on the basis of completion of the Work in accordance with the Contract Documents and this Section. Mobilization will be paid for at the contract lump sum price up to 5% of all other applicable bid items as indicated on the Bid Form. No additional payment will be made for demobilization and remobilization because of shutdowns, suspensions of work, or other mobilization activities. An initial payment of 50% of the mobilization bid item, less retainage, will be made as an initial progress payment once the Work commences on-site, as determined by the Owner. The final 50%, less retainage, will be made upon satisfactory demobilization as determined by the Owner.
- B. Bid Item No. 2 – Undercut Excavation with Bedding Backfill as directed by the Owner. When directed and authorized by the Owner, replacement of unsuitable bearing material will be measured and paid for based on the cubic yards of undercut actually excavated. Measurement shall be based on the following details as shown on the Contract Drawings and per Section 303 2.2.D of the Regional Construction Standards. Volumes shall be calculated as described above, payment height shall be the vertical distance measured between the plan elevation of excavation to the bottom of undercut, measured horizontally at 25' maximum intervals; or both ends of the undercut, whichever is less:
  - 1. Trench width details for payment of contingent items (Sheet 9); and
  - 2. Select material, backfill pay quantities (Sheet 9).

No payment will be made for material excavated and replaced as a result of native material becoming unsuitable due to acts of the Contractor. Payment will include, but is not limited to the cost of the following:

- 1. Excavation.
- 2. Disposal of unsuitable material.
- 3. Furnish and install bedding in accordance with the Contract Specifications.
- 4. Backfill, compaction, and compaction testing.

- C. Bid Item Nos. 3 and 4 – Select Material Sand and Stone as directed by the Owner. When directed and authorized by the Owner in accordance with Section 303 2.2.E.3 of the Regional Construction Standards, replacement of unsuitable backfill material with select material will be paid for at the unit price bid per ton of backfill satisfactorily installed. Select material will be measured based on the following details and as otherwise specified in the Contract Documents.

1. Trench width details for payment of contingent items (Sheet 9); and
2. Select material, backfill pay quantities (Sheet 9).

No payment will be made for material excavated and replaced as a result of native material becoming unsuitable due to acts of the Contractor. Payment will include, but is not limited to the cost of the following:

1. Disposal of unsuitable material
2. Furnish and install select material, (backfill #21B stone or backfill sand) in accordance with the Contract Documents.

Prior to delivery of materials, contractor shall submit a certification of scales calibration from the materials provider(s). Certification shall be considered valid only if the date of calibration is within 180- days of the Bid opening.

- D. Bid Item No. 5 – Miscellaneous Unclassified Excavation as Directed by the Owner. When directed and authorized by the Owner to excavate beyond plan dimension, in a manner not measured or paid for as a separate Bid Item, miscellaneous unclassified excavation will be measured and paid for based on the cubic yards of excavation. Measurement shall be based on the details listed below and as required in the Contract Documents. Volumes shall be calculated as described above, payment height shall be the vertical distance measured between the plan elevation of the excavation bottom measured horizontally at 25' maximum intervals for trenches to the agreed upon extents of the excavation, or other measurement method as agreed to by the Owner.

1. Trench width details for payment of contingent items (Sheet 9); and
2. Select material, backfill pay quantities (Sheet 9).

No payment will be made for additional excavation and replacement material placed as a result of native material becoming unsuitable or excavation necessary due to acts of the Contractor. Payment shall include excavation, shoring, backfill, compaction, grading, non-roadway surface restoration, disposal of materials and incidental work.

- E. Bid Item Nos. 6, 7, and 8 – Erosion and Sediment Control Measures installed, complete in place. Erosion and sediment control measures will be measured and paid for based on the unit and unit price indicated on the Bid Form for each measure. The cost of each unit shall include all materials, equipment, and labor required to

furnish, install, maintain and remove the erosion and sediment control measures, disposal of any and all accumulated silt and debris, as well as the removal and disposal of erosion and siltation control measures themselves. Surface restoration resulting from erosion and sediment control shall be considered incidental to erosion and sediment control.

F. Bid Item No. 9 – Tree Protection. Tree protection will be selective to protect sensitive and ornamental plantings. The Drawings generally show areas where tree protection is to be provided. Actual placement shall be as approved by the Owner. Payment will be made at the unit price bid per linear foot of temporary tree protection installed and will include all materials, equipment and labor required to furnish, install, maintain and remove the tree protection fencing, routinely dispose of any and all siltation and debris that may accumulate, disposal of the tree protection fencing itself, and surface restoration, all in accordance with the Contract Documents.

G. Bid Item No. 10 – Aggregate Base Material, Complete in Place. Aggregate base material shall be measured and paid for based upon the ton of aggregate base satisfactorily installed. Measurement for aggregate base material will be based on the presentation of delivery tickets to the Owner. Each ticket will be serial numbered, shall list the name of the company supplying the material, truck identification number, date of delivery, size of load, and project location where delivered. Payment shall include all materials, equipment and labor required to furnish, haul, place, manipulate, and compact the aggregate base material in accordance with these specifications and the Contract Documents.

Prior to delivery of materials, contractor shall submit a certification of scales calibration from the materials provider(s). Certification shall be considered valid only if the date of calibration is within 180-days of the Bid opening.

H. Bid Item No. 11 – Trench Repair Prior to Reconstruction, Complete in Place. Measurement for temporary trench prime coat over pipe trenches to receive paving prime coat shall be made in linear feet as specified. Temporary trench prime coat will be measured to the limits of plan dimension for trench widths or to the limits of prime coat actually placed, whichever is less. Payment will be made at the unit price bid per linear foot as stated on the Bid Form, complete in place, including all materials, equipment and labor required to furnish and install temporary trench prime coat including compaction, sand cover, maintenance and replacement of aggregate base and prime materials with sand cover as required, traffic control, and all other work incidental thereto, until final pavement is placed.

I. Bid Item No. 12 - Trench Repair Prior to Overlay, Complete in Place. Measurement of temporary trench pavement prior to overlay shall be made in linear feet as specified. Temporary trench pavement prior to overlay shall be measured to the limits of the plan dimensions for trench widths or to the limits of paving actually placed, whichever is less. Payment will be made at the unit price bid per linear foot

as stated on the Bid Form, complete in place, in accordance with the Contract Documents, or as directed by the Owner. Payment at the unit price bid shall include all work necessary and incidental to placement of temporary paving including furnishing, hauling, placing, manipulating and compacting the temporary pavement material. Payment shall also include preparing and shaping the sub base, subgrade, and shoulder restoration, including excavation of existing materials, and disposal of same, as required.

- J. Bid Item No. 13 – Improved Shoulder, Complete in Place. Gravel Shoulder Restoration (install 10” crusher run over 4-foot wide shoulder per the detail shown on the Contract Drawings) installed, complete in place. Measurement for shoulder restoration over pipe trenches where pipe centerline is 4 feet or less from edge of pavement shall be in linear feet along the centerline of the pipe to the limits of restoration actually placed within the Virginia Department of Transportation (VDOT) rights-of-way. Payment for shoulder restoration will be made at the unit price bid shall include all materials, equipment and labor required to furnish, haul, place, manipulate, and compact the improved shoulder material in accordance with these specifications and the Contract Drawings. Price shall include 10-inches of crusher run stone and the excavation, removal and disposal of in-situ materials, as necessary.
- K. Bid Item No. 14 – Asphalt Concrete Pavement Overlay, Complete in Place. Measurement will be made at the unit price bid per square yard of asphalt concrete pavement overlay suitably placed in accordance with the Contract Documents per plan dimension of the existing roadway unless otherwise directed by the Owner. Payment at the unit price bid shall include all work incidental to asphalt pavement overlay including furnishing, hauling, placing, manipulating and compacting the asphalt pavement material, testing, saw cutting of existing pavement, removal and disposal of existing and temporary materials, asphalt tack coat, tie in to existing pavement, pavement markings, shoulder restoration (other than Improved Shoulder Restoration which is a separate Bid Item), drainage restoration, aggregate tie in of new pavement with existing shoulder and tie ins with all existing driveways regardless of type.
- L. Bid Item No. 15 – Reconstructed Asphalt Pavement, Complete in Place. Measurement will be made at the unit price bid per square yard of reconstructed asphalt pavement suitably placed in accordance with the Contract Documents, based on plan dimensions of the existing roadway unless otherwise directed by the Owner. Payment at the unit price bid shall include all work incidental to reconstructing asphalt pavement including furnishing, hauling, placing, manipulating and compacting the asphalt pavement material, testing, milling and compaction of milled material and newly placed aggregate base materials, edge clipping, asphalt prime coat, pavement markings, shoulder restoration, drainage restoration, aggregate tie in of new pavement with existing shoulders and tie ins with all existing driveways regardless of type.

- M. Bid Item No. 16 – Concrete Driveway Restoration at Perpendicular Mainline or Lateral Crossing, Complete in Place. Measurement will be made at the unit price bid per linear foot as specified. Concrete driveway restoration at perpendicular mainline or lateral crossing shall be measured to the limits of payment specified for each type of pipeline or to the linear limit of driveway actually restored, whichever is less. Payment will be made at the unit price bid per linear foot, complete in place, for concrete driveway restoration at perpendicular mainline or lateral crossing in accordance with Contract Documents or as directed by the Owner. Payment at the unit price bid shall include all work necessary and incidental to concrete driveway restoration including furnishing, hauling placing, manipulating and vibrating the concrete material, matching and saw cutting of existing concrete, removal and disposal of existing and temporary materials, construction joint(s), steel reinforcement, formwork, tie in to existing pavement, surface treatments, protection and pavement markings.
- N. Bid Item No. 17 – Exposed Aggregate Concrete Driveway Restoration at Perpendicular Mainline or Lateral Crossing, Complete in Place. Measurement will be made at the unit price bid per linear foot as specified. Exposed aggregate concrete driveway restoration at perpendicular mainline or lateral crossing shall be measured to the limits of payment specified for each type of pipeline or to the linear limit of driveway actually restored, whichever is less. Payment will be made at the unit price bid per linear foot, complete in place, for exposed aggregate concrete driveway restoration at perpendicular mainline or lateral crossing in accordance with the Contract Documents or as directed by the Owner. Payment at the unit price bid shall include all work necessary and incidental to exposed aggregate concrete driveway restoration including furnishing, hauling placing, manipulating and vibrating the concrete material, matching and saw cutting of existing pavement, removal and disposal of existing and temporary materials, construction joint(s), steel reinforcement, formwork, tie in to existing pavement, surface treatments, protection and pavement markings.
- O. Bid Item No. 18 – Asphalt Driveway Restoration at Perpendicular Mainline or Lateral Crossing, Complete in Place. Measurement will be made at the unit price bid per linear foot as specified. Asphalt driveway restoration at perpendicular mainline or lateral crossing shall be measured to the limits of payment specified for each type of pipeline or to the linear limit of driveway actually restored, whichever is less. Payment will be made at the unit price bid per linear foot, complete in place, for asphalt driveway restoration at perpendicular mainline or lateral crossing in accordance with the Contract Documents or as directed by the Owner. Payment at the unit price bid shall include all work necessary and incidental to asphalt driveway restoration including furnishing, hauling, placing, manipulating and compacting the pavement material, testing, matching and saw cutting of existing pavement, edge clipping, removal and disposal of existing and temporary materials, asphalt tack coat, tie in to existing pavement, and pavement markings.
- P. Bid Item No. 19 – Concrete Driveway Restoration at Longitudinal Lateral

Installation in Driveway, Complete in Place. For pipelines installed longitudinally in driveways, measurement will be made at the unit price bid per square yard of concrete driveway restoration suitably placed in accordance with the Contract Documents for the full width plan dimension of the existing driveway to the extent of disturbance longitudinally plus 5-feet minimum or the nearest construction joint, unless otherwise directed by the Owner. Payment at the unit price bid shall include all work necessary and incidental to concrete driveway restoration including furnishing, hauling, placing, manipulating and vibrating the concrete material, testing, matching and saw cutting of existing pavement, removal and disposal of existing and temporary materials, construction joint(s), steel reinforcement, formwork, tie in to existing pavement, surface treatments, protection and pavement markings.

- Q. Bid Item No. 20 – Exposed Aggregate Concrete Driveway Restoration at Longitudinal Lateral Installation in Driveway, Complete in Place. For pipelines installed longitudinally in driveways, measurement will be made at the unit price bid per square yard of exposed aggregate concrete driveway restoration suitably placed in accordance with the Contract Documents for the full width plan dimension of the existing driveway to the extent of disturbance longitudinally plus 5-feet minimum or the nearest construction joint, unless otherwise directed by the Owner. Payment at the unit price bid shall include all work necessary and incidental to exposed aggregate concrete driveway restoration including furnishing, hauling, placing, manipulating and vibrating the concrete material, testing, matching and saw cutting of existing pavement, removal and disposal of existing and temporary materials, construction joints, steel reinforcement, formwork, tie in to existing pavement, surface treatments, protection and pavement markings.
- R. Bid Item No. 21 – Asphalt Driveway Restoration at Longitudinal Lateral Installation in Driveway, Complete in Place. For pipelines installed longitudinally in driveways, measurement will be made at the unit price bid per square yard of asphalt driveway restoration suitably placed in accordance with the Contract Documents for the full width plan dimension of the existing driveway to the extent of disturbance longitudinally plus 5-feet minimum, unless otherwise directed by the Owner. Payment at the unit price bid shall include all work necessary and incidental to asphalt driveway restoration including furnishing, hauling, placing, manipulating and compacting the asphalt pavement material, testing, saw cutting of existing pavement, removal and disposal of existing and temporary materials, asphalt tack coat, milling and tie in to existing pavement, pavement markings, shoulder restoration, drainage restoration, aggregate tie in of new pavement with existing shoulder.
- S. Bid Item No. 22 – Aggregate Driveway Restoration, Complete in Place. Aggregate driveway restoration material shall be measured and paid for based upon the ton of aggregate satisfactorily installed. Measurement for aggregate driveway restoration will be based on the presentation of delivery tickets to the Owner. Each ticket will be serial numbered, shall list the name of the company supplying the material, truck identification number, date of delivery, size of load, and project location where



delivered. Payment shall include all materials, equipment and labor required to match, furnish, haul, place, manipulate, and compact the aggregate material in accordance with these specifications and the Contract Documents.

Prior to delivery of materials, contractor shall submit a certification of scales calibration from the materials provider(s). Certification shall be considered valid only if the date of calibration is within 180-days of the Bid opening.

- T. Bid Item No. 23 – Concrete Curb and Gutter Restoration, Complete in Place. For pipelines installed in conflict with existing curb and gutter, measurement will be made at the unit price bid per linear foot of concrete curb and gutter restoration suitably placed in accordance with the Contract Documents for the full width plan dimension of the curb and gutter to the extent of disturbance longitudinally plus 5-foot minimum or the nearest construction joint, unless otherwise directed by the Owner. Payment at the unit price bid shall include all work necessary and incidental to concrete curb and gutter restoration including furnishing, hauling, placing, manipulating and vibrating the concrete material, testing, matching and saw cutting of existing pavement, removal and disposal of existing and temporary materials, construction joint(s), steel reinforcement, formwork, tie in to existing pavement, surface treatments, protection and pavement markings.
- U. Bid Item No. 24 – Reset Existing Valve Box or Manhole Frame and Cover, installed Complete in Place. Measurement for adjusting existing valve box or manhole frame and cover structure heights will be for each structure reset as specified in Section 510 of the RCS and the Contract Documents. Payment shall include all materials, equipment and labor required to: excavate the existing pavement, base and sub-base materials; remove, clean, paint and refinish the structure as directed by the Owner; new base materials for adjusting the structure height; poured concrete collars; seals; bedding, select material backfill, compaction and testing; and, traffic control.
- V. Bid Item Nos. 25, 26, and 27 – 12, 15 and 18-inch Culvert Pipe, Installed Complete in Place. Measurement shall be made in linear feet of each size of culvert pipe replaced as directed by the Owner. No measurement or payment will be made for culvert replacement required due to acts of the Contractor, for reinstallation of culvert pipe displaced during construction or otherwise adjusting, bracing or manipulating of existing culvert pipe to remain in place. Payment shall include all materials, equipment and labor required to replace and install culvert pipe including:
1. Pipe, fittings and jointing materials.
  2. Saw cutting pavement and pavement removal for trench excavation.
  3. Excavation, backfilling with select material backfill, compacting, and compaction testing.
  4. Select material backfill.
  5. 6-inches of stone bedding.
  6. Cleaning prior to acceptance, as required.
  7. Dewatering.

8. Disposal of surplus and excess material.
9. Main line fittings.
10. Pipe anchor blocks.
11. Restoration in right-of-way and shoulders and easements (including curb and gutter restoration), unless otherwise specified on the drawings.
12. Storm sewer and appurtenances.
13. Stripping and stockpiling topsoil.
14. Temporary seeding and stabilization.
15. Temporary sheeting, shoring, and bracing.
16. Joint Wrapping & Sealing.
17. Connections to existing piping and structures.
18. Testing.

W. Bid Item Nos. 28 and 29 – 4-inch and 8-inch D.I. Water Main, Installed Complete in Place. Measurement shall be made in linear feet of 4-inch and 8-inch water main satisfactorily installed disinfected and tested in accordance with the drawings and specifications. Payment shall include all materials, equipment and labor required to install water main including:

1. Pipe, fittings and jointing materials.
2. Saw cutting pavement and pavement removal for trench excavation.
3. Excavation, backfilling, compacting, and compaction testing.
4. Stone bedding.
5. Coatings.
6. Dewatering.
7. Disinfection.
8. Restoration in right-of-way and easements (not including curb and gutter restoration or pavement restoration, unless otherwise noted).
9. Sampling and flushing.
10. Shoulder restoration.
11. Temporary seeding and stabilization.
12. Temporary sheeting, shoring, and bracing.
13. Testing and water for testing.
14. Thrust restraint.
15. Connections to existing mains and appurtenances.

X. Bid Item Nos. 30 and 31 – 4" and 8" Water Main Gate Valve, Installed Complete in Place. Valves installed will be measured and paid for each gate valve satisfactorily installed, and tested in accordance with the Contract Documents. Valves installed will be paid for at the unit price bid and will include the cost of the following: gate valve, valve box, frame and cover, bedding stone, excavation, backfilling, dewatering, compaction, compaction testing, shoring, thrust restraint, testing, flushing and surface restoration.

Y. Bid Item Nos. 32, 33, and 34 – Fire Hydrant Assemble, Types I, II-A, and III.

Measurement shall be made by each new hydrant satisfactorily installed disinfected and tested in accordance with the drawings and specifications. Payment shall include all materials, equipment and labor required to install fire hydrant including:

1. Pipe, fittings and jointing materials.
2. Saw cutting pavement and pavement removal for trench excavation.
3. Excavation, backfilling, compacting, and compaction testing.
4. Stone bedding.
5. Coatings.
6. Dewatering.
7. Disinfection.
8. Restoration in right-of-way and easements (not including curb and gutter restoration).
9. Sampling and flushing.
10. Shoulder restoration.
11. Temporary seeding and stabilization.
12. Temporary sheeting, shoring, and bracing.
13. Testing and water for testing.
14. Thrust restraint.
15. Connections to existing mains and appurtenances.

Z. Bid Item No. 35 – Water Service Connections. Measurement shall be made for each new water service line installed disinfected and tested in accordance with the drawings and specifications. Payment shall include all materials, equipment and labor required to install water service including:

1. Pipe, fittings and jointing materials.
2. Open-cut and/or jacking/boring installation of new service tying to existing meter box, valve and meter or capping service for undeveloped properties.
3. Capping of existing line to remain in place.
4. Saw cutting pavement and pavement removal for trench excavation.
5. Excavation, backfilling, compacting, and compaction testing.
6. Stone bedding.
7. Coatings.
8. Dewatering.
9. Disinfection.
10. Restoration in right-of-way and easements (not including curb and gutter restoration).
11. Sampling and flushing.
12. Corporation stops.
13. Service saddles.
14. Shoulder restoration.
15. Temporary seeding and stabilization.
16. Temporary sheeting, shoring, and bracing.
17. Testing.
18. Thrust restraint.

19. Connections to existing mains and appurtenances.
20. Adjustment of existing water meter.

AA. Bid Item Nos. 36, 37, 38, and 39 – 3, 4, 6, and 8-inch Vacuum Sewer, Installed Complete in Place. Vacuum sewer will be measured based upon the linear footage, in the horizontal plane, of each size pipe installed in accordance with the Contract Documents and satisfactorily tested regardless of depth. Pipe in place will be paid for at the unit price bid and will include, but is not limited to the cost of the following:

1. Furnishing and installing the proposed vacuum sewer, fittings, and appurtenances, excluding division valves and gauge tap assemblies and other items specified for payment under separate pay items.
2. Connections to existing mains and appurtenances.
3. Saw cutting pavement and pavement removal for trench excavation.
4. Excavation, backfilling, compacting, and compaction testing.
5. Shoring and Bracing.
6. Dewatering.
7. Furnishing and installing bedding material.
8. Thrust restraint.
9. Testing (leakage, compaction, etc.).
10. Final surface grading.
11. Clearing and grubbing.
12. Strip and stockpile topsoil.
13. Surface Restoration.
14. Temporary grading, seeding and stabilization.
15. Shoulder restoration.
16. Furnishing and installing tracer wire and utility marker tape.
17. Temporary and final restoration in the right-of-way and easements, of shoulders and grade surface features including drainage ditches, culverts, curb and gutter and topsoil, seeding, stabilization and plantings (not including curb and gutter restoration).
18. Stripping and stockpiling topsoil.
19. Temporary sheeting, shoring, and bracing.
20. Clearing and grubbing.
21. Cleanup.

AA. Bid Item Nos. 40, 41, and 42 – 4", 6", and 8" Division Valves and Gauge Tap Assemblies, Installed Complete in Place. Division valves and gauge tap assemblies will be measured based upon each size unit installed in accordance with the Contract Documents and satisfactorily tested. Valves and gauge tap assemblies will be paid for at the unit price bid and will include, but not limited to the cost of the following:

1. Riser pipe and operator extensions.
2. Manhole frame and cover.
3. Thrust restraint, including restrained joints.

4. Concrete for valve support.
5. RCP and PVC riser pipes, concrete brick and mortar.
6. PVC saddle clamp, valve, copper pipe, fittings and appurtenances associated with the gauge tap assembly.
7. Excavation.
8. Backfilling, compacting, and compaction testing.
9. Shoring.
10. Dewatering.
11. Protection of existing utilities.
12. Furnishing and installing bedding material.
13. Clearing and grubbing.
14. Restoration.
15. Final surface grading.
16. Temporary seeding and stabilization.
17. Testing.

AB. Bid Item No. 43 – DI Casing Pipe, Installed Complete in Place. Ductile iron casing pipe installed at special, ditch and storm sewer crossings will be measured based upon the linear footage of casing pipe satisfactorily installed in accordance with the drawings and specifications regardless of mainline or casing pipe diameter. Ductile iron casing will be paid for at the unit price bid and will include, but not limited to the cost of furnishing and installing the proposed ductile iron casing pipe, excavation, compaction and testing, bedding, end seals, support spacers, and all other work incidental to the casing installation. Price does not include carrier pipe, but does include the installation of the carrier pipe within the casing.

AC. Bid Item No. 44 – End of Line Identification Marker, Installed Complete in Place. End of line identification markers will be measured based upon each installed. End of line identification markers shall be installed in accordance with the Contract Documents at the end of all stubs and at other locations as directed by the Owner. End of line identification markers will be paid for at the unit price bid and will include, but not limited to the cost of the following:

1. Metal marker post.
2. Excavation beyond trench limits
3. Backfilling, compaction, and testing.
4. Cleanout box frame and cover and stone bedding.
5. Finish grading and surface restoration.

AD. Bid Item Nos. 45, 46 and 47 – Shallow, Standard, and Deep Vacuum Valve Pits and Collection Sumps, Installed Complete in Place. Vacuum valve pits and collection sump assemblies will be measured based upon each type installed and satisfactorily tested. The Owner will provide and install the in-sump breather unit and vacuum valve. Standard and deep vacuum valve pits and collection sump assemblies will be paid for at the unit price bid and will include, but not limited to the cost of the following:

1. Valve Pit and Sump Assembly, Complete, as provided by Airvac
2. Excavation.
3. Select Material Backfill
4. Backfilling, compacting, and compaction testing.
5. Shoring.
6. Dewatering.
7. Protection of existing utilities.
8. Furnishing and installing bedding material.
9. Clearing and grubbing.
10. Restoration.
11. Final surface grading.
12. Temporary seeding and stabilization.
13. Protection, maintenance, restoration and replacement of utility lines and other underground facilities (public or private) disturbed or otherwise displaced during construction.
14. Testing.
15. Concrete Traffic collar (where required and directed by the Owner).
16. Final cleaning at acceptance.
17. Traffic bearing frame and cover.
18. 3" vacuum lateral from pit through and including the flexible service lateral

AE. Bid Item No. 48 – Vacuum Sewer Line Flushing and Testing. Measurement and payment for vacuum sewer line flushing will be made at the Contract Price lump sum set forth on the Bid Form. The cost of this bid item will include all materials, labor and equipment required to flush and test the vacuum sewer lines in accordance with the Contract Documents including, but not limited to provision of water and tank truck, testing equipment, hauling and disposal, control of discharges, and all other work incidental to sewer line flushing and testing. This item shall include final cleaning of all vacuum pits at final acceptance and retesting as required to demonstrate conformance with the Contract Documents.

AF. Bid Item Nos. 49 and 50 – 4" and 6" PVC Gravity Sewer Laterals, Installed Complete in Place. Gravity sewer laterals will be measured along the centerline of the pipeline based on linear footage of each pipe size installed in accordance with the Contract Documents and satisfactorily tested regardless of depth. Pipe will be measured to the centerline of the mainline manholes, pipelines, and cleanouts or centerline of vacuum sumps to the centerline of the cleanout. Payment for gravity sewer laterals will be at the unit price bid and will include, but not limited to the cost of the following:

1. Saw cutting pavement and pavement removal for trench excavation.
2. Backfilling, compacting, and compaction testing.
3. Bedding as detailed on the plans.
4. Shoring and bracing.
5. Dewatering.

6. Disposal of surplus material.
7. Excavation.
8. Flushing.
9. Gravity sewer pipe, fittings, and appurtenances.
10. Connections to exiting pipes and appurtenances.
11. Temporary and final restoration in the right-of-way and easements of shoulders and grade surface features including drainage ditches, culverts, curb, gutter, topsoil, seeding and plantings (not including curb and gutter restoration or pavement restoration, unless otherwise noted).
12. Stripping and stockpiling topsoil.
13. Temporary seeding and stabilization.
14. Temporary sheeting, shoring, and bracing.
15. Testing.
16. Maintenance, restoration and replacement of utility lines disturbed or otherwise displaced during construction.
17. Clearing and grubbing.
18. Cleanup.

AG. Bid Item Nos. 51 and 52 – 4” and 6” PVC Sewer Lateral Cleanout Assembly, Installed Complete in Place. Lateral cleanouts will be measured based upon each installed in accordance with the Contract Documents and satisfactorily tested. Cleanouts will be paid for at the unit price bid and will include, but not limited to the cost of the following:

1. Excavation outside trench limits.
2. Backfilling, compacting, and compaction testing.
3. Bedding as detailed on the plans.
4. Shoring and bracing.
5. Dewatering.
6. Disposal of surplus material.
7. All fittings, caps, pipe and necessary appurtenances.
8. Cleanout box, frame, and cover with bedding stone.
9. Temporary and final restoration in the right-of-way and easements of shoulders and grade surface features including drainage ditches, culverts, curb, gutter, topsoil, seeding and plantings.

AH. Bid Item Nos. 53 and 54 – 2” and 8” PVC Force Main, Installed Complete in Place. Force main will be measured based upon the linear footage, installed in the horizontal plane, of each size and type of pipe installed in accordance with the Contract Documents and satisfactorily tested. Pipe in place will be paid for at the unit price bid and will include, but is not limited to the cost of the following:

1. Saw cutting pavement and pavement removal for trench excavation.
2. Excavation.
3. Backfilling, compacting, and compaction testing.
4. Dewatering.

5. Flushing.
6. Force main, including fittings and appurtenances excluding valves and air release assemblies.
7. Interior and exterior coatings.
8. Polyethylene encasement.
9. Thrust restraint.
10. Testing.
11. Water for testing.
12. Tracer wire and subsurface marking tape (non-metallic pipe).
13. Restoration in right-of-way and easements (not including curb and gutter restoration or pavement restoration, unless otherwise noted).
14. Shoulder restoration.
15. Temporary seeding and stabilization.
16. Temporary sheeting, shoring and bracing.
19. Maintenance, restoration and replacement of utility lines disturbed or otherwise displaced during construction.
20. Clearing and grubbing.
21. Cleanup.

AI. Bid Item Nos. 55 and 56 – 2” and 8” Force Main Gate Valve, Installed Complete in Place. Valves installed will be measured and paid for each gate valve satisfactorily installed, and tested in accordance with the Contract Documents. Valves installed will be paid for at the unit price bid and will include the cost of the following: gate valve, valve box, frame and cover, bedding stone, excavation, backfilling, dewatering, compaction, compaction testing, shoring, thrust restraint, testing, flushing and surface restoration.

AJ. Bid Item No. 57 – Manual Air Relief Valve installed, complete in place. Manual air relief valves satisfactorily installed in accordance with the Contract Documents and tested and will be measured and paid for as a complete, installed and tested unit at the unit price bid. Included in the cost of each manual air relief valve is excavation outside trench limits, backfilling, dewatering, compaction, compaction testing, shoring, thrust restraint, flushing, riser pipe/box, frame and cover with bedding stone, corporation stops, tapping saddle, all piping, valves and fittings required, and all other labor, equipment, materials, and incidentals required to complete each installation.

AK. Bid Item No. 58 – Blow-off Assembly, Installed Complete in Place. Blow-off assemblies installed will be measured and paid for each blow-off assembly satisfactorily installed, and tested in accordance with the Contract Documents. Blow-off assemblies installed will be paid for at the unit price bid and will include the cost of the following: flushing hydrant, pipe and fittings, valve box, frame and cover, bedding stone, drainage fabric, excavation, backfilling, dewatering, compaction, compaction testing, shoring, thrust restraint, testing, flushing and surface restoration and all other labor, equipment materials and incidentals required to complete each installation.

AL. Bid Item No. 59 – Tracer Wire Access Box installed, complete in place. Tracer wire

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access boxes satisfactorily installed in accordance with the Contract Documents and tested and will be measured and paid for as a complete, installed and tested unit at the unit price bid. Included in the cost of each tracer wire access box is excavation outside trench limits, backfilling, dewatering, compaction, compaction testing, shoring, tracer wire, riser pipe/box, bedding stone, surface restoration, and all other labor, equipment, materials, and incidentals required to complete each installation.

#### **1.05 PAYMENT**

- A. Measurement of the several Bid Items listed on the Bid Form will be in the units indicated. No measurement will be made until the item has been installed and accepted as complete by the Owner and the Owner's Representative.
- B. When requested, gravity sewer pipe, force main and water main payments will be made at 90% of the unit price bid per linear foot for each size and type of pipe installed complete in place, prior to satisfactory testing. The remaining 10% shall be paid following successful completion of the Work including restoration, and Owner acceptance of the testing. All payments shall be subject to applicable retainage in accordance with Section 109.
- C. Payment at the unit price bid shall constitute full compensation for furnishing all labor, material, and equipment required for provision of the item in accordance with the Contract Documents.
- D. The 90% payment for vacuum pipeline will be based on all successful daily testing. The remaining 10%, excluding retainage for the Bid Item, will be paid upon satisfactory completion of restoration activities.

#### **PART 2 – PRODUCTS**

NOT APPLICABLE TO WORK IN THIS SECTION

#### **PART 3 – EXECUTION**

NOT APPLICABLE TO WORK IN THIS SECTION

End of Section

## **SECTION 02700**

### **VACUUM SEWER MAINS AND CROSSEOVERS AND DIVISION VALVES**

#### **PART 1 - GENERAL**

##### **1.01 DESCRIPTION**

- A. The Work of This Section Includes, but is not limited to:
  - 1. Vacuum Sewer Mains and Crossovers
  - 2. Division Valves
- B. Related Work Specified Elsewhere:
  - 1. Section 200 – Products and Materials
  - 2. Section 303 – Earthwork
  - 3. Section 309 – Aggregate Base Course
  - 4. Section 802 – Sanitary Gravity Sewer Systems
  - 5. Section 803 – Sanitary Force Main Systems
  - 6. Section 02705 - Vacuum Valves, Valve Pots and Collection Sumps
  - 7. Section 02710 - Testing Vacuum Piping Systems
  - 8. Section 02715 - Vacuum Buffer Tanks
- C. Applicable Standard Details shall be as shown on the Contract Drawings:

##### **1.02 QUALITY ASSURANCE**

- A. Reference Standards:
  - 1. American Society for Testing and Materials (ASTM):
    - D-1784 - Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated (Polyvinyl Chloride) (CPVC) Compounds
    - D-2241 - Specification for (Polyvinyl Chloride) (PVC) Pressure Rated Pipe (SDR-Series)
    - D-2466 - (Polyvinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40
    - D-2564 - Solvent Cements for (Polyvinyl Chloride) (PVC) Plastic Pipe and Fittings
    - D-2665 - Standard Specification for (Polyvinyl Chloride) (PVC) Plastic Pipe and Fittings
    - D2855 - Standard Practice for Making Solvent-Cemented Joints with Polyvinyl Chloride (PVC) Pipe and Fittings

- D3139 - Specification for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals
- F477 - Elastomeric Seals (Gaskets) for Joining Plastic Pipe
- 2. American National Standards Institute (ANSI) - American Water Works Association (AWWA):
  - C110 - Ductile Iron and Gray Iron Fittings, 3 through 48 inch, for Water and Other Liquids
  - C111 - Rubber Gasket Joints for Ductile Iron Pressure Pipe and Fittings
  - C151 - Ductile Iron pipe, centrifugally cast for water and other liquids
  - C509 - Resilient Seated Gate Valves for Water Supply Service
  - C550 - Protective Epoxy Interior Coatings for Valves and Hydrants
- B. Materials contaminated with gasoline, lubricating oil, liquid or gaseous fuel, aromatic compounds, paint solvent, paint thinner, or acid solder will be rejected.

### 1.03 SUBMITTALS

Submit the following in accordance with Section 105, "Control of Work".

- A. Certificates:
  - 1. Submit each manufacturer's certification attesting that the pipe, pipe fittings, joints, joint gaskets, division valves and lubricants meet or exceed specification requirements.
  - 2. The manufacturer shall certify the gasketed joint has been tested in accordance with ASTM D3139 Section 6.1.2, except that the assembled joint must withstand a vacuum of 22 inches of mercury for four (4) hours with less than 1% per hour leakage while in the axially deflected position as in ASTM D3139 Section 6.1.1, and is guaranteed for such use.
  - 3. The manufacturer shall certify that PVC fittings conform to ASTM D-2466 and that the fittings are suitable for operation in a vacuum of 22 inches of Mercury and withstand a vacuum test at 22 inches of mercury with a maximum leakage rate of 1% per hour for a four-hour period.
  - 4. Gate valve manufacturer shall certify that all valves conform to the references specifications and are suitable for buried applications, suitable for constant contact with domestic sewage, and can withstand a vacuum of 22-inches Mercury for 4-hours with a loss of less than or equal to 1% per hour.

## 1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

### A. Delivery and Handling:

1. Do not place materials on private property without written permission of the property owner.
2. During loading, transporting and unloading, exercise care to prevent damage to materials.
3. Do not drop pipe, valves or fittings. Avoid shock and damage at all times.
4. Take measures to prevent damage to the exterior surface and internal lining of the pipe.

### B. Storage:

1. Do not stack pipe higher than recommended by the pipe manufacturer.
2. Store gaskets for push-on joints in a cool, dry location out of direct sunlight and not in contact with petroleum products.

## PART 2 – PRODUCTS

### 2.01 POLYVINYL CHLORIDE (PVC) VACUUM PIPE

#### A. Vacuum Sewer Mains and Crossovers:

1. Pipe: SDR21 PVC pipe conforming to ASTM D-2241 produced from a PVC compound having a cell classification of 12454 conforming to ASTM D-1784.
2. Joint: Elastomeric sealed joints shall be made in accordance with ASTM D-3139. Gasket bells shall conform to ASTM-D3139 with gaskets conforming to ASTM F-477. All fittings are to be made from NSF-approved material. Gaskets shall be locked-in style. Pipe utilizing elastomeric seals must be certified by the manufacturer that pipe and seal will operate at 22-inches of mercury vacuum and withstand a vacuum test at 22-inches of mercury vacuum with a maximum leak rate of 1% per hour for a four hour period.
3. Gasketed Fittings: The sizes and types of fittings shall be as follows:
  - a. All fittings shall be one-piece injection molded schedule 40 Class 160 PVC gasketed fittings. All fittings shall conform to ASTM D-1784. All fittings shall be marked as follows:
    - i) Manufacturer's Name
    - ii) Size
    - iii) PVC-1, PVC-11 or PVC-12 (PVC-13 is not acceptable)
  - b. Fittings shall be manufactured by Specified Fittings, Inc., or approved equal.

4. Glued Fittings: GLUED FITTINGS SHALL ONLY BE USED WHERE REQUIRED TO ACCOMMODATE LIFT HEIGHTS THAT CANNOT BE ACCOMMODATED WITH GASKETTED FITTINGS. The sizes and types of fittings shall be as follows:
  - a. 4-inch and 6-inch wyes shall be molded schedule 40 fittings and marked as follows:
    - i) Manufacturer's Name
    - ii) Size
    - iii) PVC-1, PVC-11 or PVC-12 (PVC-13 is not acceptable)
  - b. 6-inch and larger 22.5 and 11.25 degree bends; 8-inch and larger wyes; and 10-inch and larger couplings can be DWV (Drain, Waste and Vent) molded fittings conforming to ASTM D-2665 and shall be marked as follows:
    - i) Manufacturer's Name or Trademark
    - ii) PVC
    - iii) Does not need to be marked ASTM D-2665, but must conform in all respects to ASTM D-2665.  
(DWV fittings by Charlotte Pipe and Foundry Co. meet this requirement. Spears Manufacturing Co. fittings are fabricated and do not meet the requirement. Others will be considered on a case-by-case basis.)
  - c. All other vacuum fittings shall be molded, schedule 40 PVC fittings and shall be marked as follows:
    - i) Manufacturer's Name
    - ii) Size
    - iii) ASTM D-2466
    - iv) PVC-1, PVC-11, or PVC-12 (PVC-13 is not acceptable)
  - d. Reducers: Unless otherwise indicated or directed by the Owner, reducers for vacuum sewer piping shall be concentric reducers.

## 2.02 DIVISION VALVES

### A. Gate Valves:

1. Valves shall conform to AWWA C509-94, Standard for Resilient Seated Gate Valves suitable for buried service and in constant contact with domestic sewage. Valves shall be manufactured by Waterous Company, Mueller, or approved equal.
2. Wedge shall be constructed of ductile iron, fully encapsulated in synthetic rubber except for guide and wedge nut areas.
3. Wedge rubber shall be molded in place and bonded to the ductile iron portion, and shall not be mechanically attached with screws, rivets, or similar fasteners.

4. Wedge shall seat against seating surfaces arranged symmetrically about the centerline of the operating stem, so that seating is equally effective regardless of direction of pressure unbalance across the wedge.
5. All seating surfaces in body shall be inclined to the vertical at a minimum angle of 32° (when stem is in a vertical position) to eliminate abrasive wear of rubber sealing surfaces.
6. Stem shall be non-rising and sealed by at least two (2) O-Rings; all stem seals shall be replaceable with valve wide open and while subjected to full rated pressure.
7. Waterway shall be smooth and shall have no depressions or cavities in seat area where foreign material can lodge and prevent closure or sealing.
8. Operating nut shall be 2" square.
9. Bonnett shall be embossed with direction of open; shall open counter-clockwise.
10. Valve body and bonnet shall be coated, inside and out, with fusion-bonded epoxy. Coating shall conform to AWWA C550-90, Standard for Protective Interior Coating for Valves and Hydrants.
11. Stuffing box and bonnet bolts and nuts shall be stainless steel fasteners, Type 304, Type 316.
12. Mechanical joint connections with transition to PVC gaskets shall be provided.
13. Two (2) tee keys shall be provided for the project.
14. Buried valves shall be provided with valve boxes and the operating nut shall be extended to within 9", plus or minus 6", of the finished grade. The valve box cover shall have the words "SEWER" on it.
15. Full ten (10) year money back warranty.
16. Gauge tap assemblies, as detailed on the Contract Drawings, shall be furnished and installed as part of each division valve installation.

## 2.03 JOINT RESTRAINT

- A. Retainer glands for PVC pipe bells shall be cast from 60-42-10 ductile iron. These devices shall have sufficient number of ductile tie bolts to restrain working and test pressure as stated by the manufacturer. Each ductile clamp shall have serrations on the I.D. sufficient to hold working and test pressures. These devices shall be used to restrain pipe joints adjacent to the restrained fittings.
- B. Manufacturer shall be EBAA Iron, Inc. or approved equal; Series 6500 for vacuum lines with IPS O.D. PVC pipe.

## 2.04 GAUGE TAP ASSEMBLIES

- A. The ¾-inch PVC true union ball valve shall be as manufactured by Spears Manufacturing Co. Model No. TU-2-0901 or approved equal.
- B. The saddle clamp shall be stainless steel as manufactured by Smith-Blair Model 264, Tapped Full Circle Repair Clamps, or approved equal.

## 2.05 COUPLINGS FOR VACUUM PIPING (4", 6", and 8")

- A. Iron pipe size compression couplings for 4", 6" and 8" diameter pipe.
- B. JCM Industries Inc. Series JCM215 Long Ductile Iron Couplings, Part Number 110-40 or 110-60 as manufactured by Flo Control Inc, or approved equal.
- C. Couplings shall have a minimum length of 10-inches.

## 2.06 VALVE BOXES

- A. All valve boxes shall conform to York County Sanitary Sewer Standard's and Specifications. Valve boxes shall be set truly vertical and centered over the valve, with the top at finished grade elevation. Box shall not transmit traffic loads to the valve.

## 2.07 DUCTILE IRON PIPE

- A. Ductile Iron pipe for encasing vacuum mains shall be in accordance with AWWA C151 Class 51. Buried pipe shall have push on joints conforming to AWWA C111. The exterior and interior of all pipes shall have an asphaltic coating in accordance with AWWA C151 and C110.

## 2.08 CASING PIPE END SEALS AND CARRIER PIPE SUPPORT SPACERS

- A. Casing pipe end seals and carrier pipe support spacers shall be rubber transition gaskets approved by the Owner.

# PART 3 - EXECUTION

## 3.01 PREPARATION

- A. Perform trench excavation to the line and grade indicated on the Contract Drawings and as specified in Section 303.
- B. Unless otherwise indicated on the Contract Drawings or where otherwise directed by the Owner, provide for a minimum cover of 3-feet above the top of the pipe.
- C. Provide pipe bedding as specified and shown for each type of pipe used. Place aggregate in a manner to avoid segregation, and compact to the maximum practical density.

## 3.02 LAYING PIPE IN TRENCHES

- A. Give ample notice to the Owner and affected property Owners in advance of pipe laying operations.
- B. Lower pipe into trench using handling equipment designed for the purpose to assure safety of personnel and to avoid damage to pipe. Do not drop pipe.
- C. Laser Beams and Grade Boards:
  - 1. If the Contractor elects to use a laser beam to set the line and grade for pipe laid; the following requirements must be adhered to:
    - a. Line and grade of the laser must be checked at a minimum of one hundred (100) foot intervals.
    - b. The level vial on the grade instrument of the laser must be checked at a minimum of each thirty (30) minutes of use or more frequently if equipment is being used around the laser instrument that could cause the instrument to become unlevel.
    - c. A blower shall be used when required to keep a uniform air temperature in the pipe to prevent bending of the light beam.
    - d. The Contractor will be able to produce such documentation as is necessary, at the request of the Owner, to show that any laser used on the Contract has been calibrated within the preceding twelve (12) months.
    - e. The Contractor shall remove and replace any laser or associated component should it be determined that the instrument is out of calibration.
- D. Lay pipe with the bell or groove pointing upstream.
- E. Lay pipe to a true uniform line with the barrel of the pipe resting solidly in pipe bedding material throughout its length. Excavate recesses in pipe bedding material to accommodate joints, fittings and appurtenances. Do not subject pipe to a blow or shock to achieve solid bearing or grade.
- F. Lay each section of pipe in such a manner as to form a close concentric joint with the adjoining section.
- G. Clean and inspect each section of pipe before joining. Assemble to provide tight, flexible joints that permit movement caused by expansion, contraction, and ground movement. Use lubricant recommended by the pipe or fitting manufacturer for making joints. If unusual joining resistance is encountered or if the pipe can not be fully inserted into the bell, disassemble joint, inspect for damage, reclean joint components, and reassemble joint.
- H. Assemble joints in accordance with recommendations of the manufacturer.
  - 1. Push-on Joints:

Shall be made in accordance with ASTM D3139.
  - 2. Solvent Weld Joints:



Shall be made in accordance with ASTM D2855.

- I. Disassemble and remake improperly assembled push-joints using a new gasket.
- J. Check each pipe installed as to line and grade in place. Correct deviation from grade immediately. A deviation from the designed grade as shown on the Contract Drawings, unless authorized by the Owner prior to installation, will be cause for rejection.
- K. Place sufficient backfill on each section of pipe, as it is laid, to hold firmly in place.
- L. Clean interior of the pipe as work progresses. Where cleaning after laying is difficult because of small pipe size, use a suitable swab or drag in the pipe and pull forward past each joint immediately after the jointing has been completed.
- M. Keep trenches and excavations free of water during construction.
- N. When the work is not in progress, and at the end of each workday, securely plug open ends of pipe and fittings to prevent trench water, earth, or other substances from entering the pipes or fittings.
- O. Contractor shall install copper tracer wire, as specified, on all plastic pipe and fittings. Tracer wire shall be affixed to the pipe at no greater than 10-foot intervals by acceptable strapping and coiled into the valve boxes as shown on the Details. Splicing of tracer wire will not be permitted.
- P. Contractor shall install warning tape, as specified, and shall install the tape in the trench above all pipe between 18 and 24-inches of the ground surface.

### 3.03 BACKFILLING TRENCHES

- A. Backfill pipeline trenches only after examination of the laid pipe by the Owner, and in accordance with Section 303 and the Special Provisions.
- B. Backfill trenches as specified in Section 303 and the Special Provisions.

### 3.04 DIVISION VALVE AND GAUGE TAP ASSEMBLY INSTALLATION

- A. Install division valves and gauge tap assemblies and accessories in accordance with the manufacturer's instructions and the Contract Drawings.
- B. Contractor shall operate every valve at least once prior to installation to assure their functionality.
- C. Check and adjust valves and accessories for smooth operation.

### 3.05 COUPLINGS

- A. Install couplings in accordance with the manufacturer's instructions.
- B. Couplings shall be used only at branch intersections or at locations approved by the Owner.

- C. Couplings shall not be installed within the required restrained joint length "L" on either side of a fitting, as noted on the Drawings.

### 3.06 THRUST RESTRAINT

- A. Provide restraint for vacuum lines at all bends, tees, valves and changes in direction.

END OF SECTION

## **SECTION 02710**

### **TESTING VACUUM PIPING SYSTEMS**

#### **PART 1 - GENERAL**

##### **1.01 DESCRIPTION**

- A. The Work of This Section Includes, but is not limited to:
  - 1. Vacuum Sewer Pipe Vacuum Testing
- B. Related Work Specified Elsewhere:
  - 1. Section 200 – Products and Materials
  - 2. Section 303 – Earthwork
  - 3. Section 309 – Aggregate Base Course
  - 4. Section 802 – Sanitary Gravity Sewer Systems
  - 5. Section 803 – Sanitary Force Main Systems
  - 6. Section 02700 – Vacuum Sewer Mains, Crossovers and Division Valves
  - 7. Section 02705 – Vacuum Valves, Valve Pots and Collection Sumps
  - 8. Section 02715 – Vacuum Buffer Tanks

##### **1.02 QUALITY ASSURANCE**

- A. Test Acceptance:
  - 1. No test will be accepted until leakage rate is below specified maximum limits.
  - 2. The Contractor shall determine and correct the cause of test failures and retest until successful test results are achieved.

##### **1.03 SUBMITTALS**

Submit the following in accordance with Section 105, "Control of Work".

- A. Submit the following prior to start of testing:
  - 1. Test Procedures
  - 2. List of Test Equipment
  - 3. Testing Sequence Schedule
  - 4. Certification of test pressure gauge calibration and accuracy

#### **PART 2 - PRODUCTS**

##### **2.01 VACUUM TESTING EQUIPMENT**

- A. Trailer Mounted Vacuum Field Test Pump:
  - To be provided by the Owner in accordance with Part 3 of this Section.

- B. Shut-off Valve
- C. Plugs
- D. Vacuum Gauge Calibrated to 0.1-inch Hg.
- E. Portable vacuum chart recorder as supplied by AIRVAC. Charts and pens shall be provided by the Contractor.

### **PART 3 - EXECUTION**

#### **3.01 TRAILER MOUNTED VACUUM FIELD TEST PUMP**

- A. The Owner will provide a single trailer mounted vacuum field test pump and accessories for use in testing the vacuum system. Upon completion of the project, the Contractor shall return the test rig to the Owner. The test rig shall be delivered in good working condition with fluids, lubricants, and filters all changed prior to delivery.
- B. The Contractor shall be considered the lessee of the test rig during the course of construction and shall be responsible for it in all regards. At the completion of the project, it shall be returned to the Owner in a condition equal to that at the beginning of the project.
- C. The Contractor shall be solely responsible for maintaining the test rig, chart recorder and vacuum gauge in a workable condition. The Owner will not be responsible for any claims for losses based on the breakdown or failure of this equipment.

#### **3.02 DAILY TESTING OF VACUUM SEWER MAINS**

- A. Daily Testing:
  - 1. Perform daily testing of all vacuum sewer mains and lateral connections laid as follows:
    - a. Plug all open connections with rubber stoppers or temporary caps, fitted to the pipe by "no-hub" couplings.
    - b. Apply a vacuum to 22 inches Mercury to the pipes and allow the pressure to stabilize for 15 minutes. The test shall be initiated at 22-inches Mercury. There shall be no loss of vacuum in excess of 1% per hour for a two hour test period.
    - c. As pipe is laid, the new section shall be tested in addition to the previously laid pipe on that main until a division valve is placed. Testing then shall be done with the valve either closed or open as directed by the Owner.
- B. Additional pipe may not be installed until satisfactory test results are achieved for a given main.

### 3.03 SYSTEM WIDE VACUUM TEST

- A. Perform required final acceptances testing on complete system as follows - Test the entire sewerage system to a vacuum of 22 inches mercury, allow to stabilize for 15 minutes. The test shall be initiated at 22 inches mercury. There shall be no loss greater than one percent per hour over a four hour test period. Contractor shall provide 48-hours notice to Owner prior to test. All division valves are to be opened prior to beginning of system wide vacuum test. Test results shall be recorded on an approved vacuum chart recorder. This chart will not be considered valid unless witnessed by Owner on the test equipment at beginning and the end of vacuum test period. The Owner will sign and date chart to verify witness of test. This signature does not indicate acceptance of the system.

### 3.04 SYSTEM FLUSH

- A. After a successful system wide vacuum testing, flush lines utilizing a double volume of water to remove debris and foreign materials that accumulated in the lines and valve pots during construction. At least 30 days prior to initiation of flushing operations, the Contractor shall submit his proposed plan for conducting line flushing to the Owner for approval. The plan shall include the equipment to be used; the segments of the system to be flushed at a given time; the calculated volume of pipe (excluding three inch lines) to be flushed, by segment; the location of vacuum valves to be installed to facilitate the flushing operations; and the approximate volume of water to be introduced into the system at the end of each branch line.
- B. The Contractor shall provide appropriate vacuum equipment and receiving tank to accomplish the work. A vacuum pump may be temporarily connected to a collection tank to create a vacuum on the system of 20" of mercury. The Contractor shall supply all water necessary to achieve an acceptable flush of the system.
- C. The following describes the flushing procedure – Place system under vacuum at the downstream end of the vacuum main segment being flushed. Add water to valve pots at extreme ends of system and cause vacuum valves to operate. (Owner shall supply and Contractor shall install valves at the terminal end of each branch line to facilitate flushing). Utilize system vacuum to transport water and debris to collection point. Adjust valve timer to allow sufficient air into the system (approximately 7:1 air to liquid ratio). Continue procedure until water exiting at the collection point is free of contamination and debris. Contractor shall legally dispose of flushing water and debris. After flushing is complete, Contractor shall remove valves and reinstall temporary caps, evacuate all flush water from the system and leave the completed system at approximately 18 inches of vacuum.

### 3.05 TERMINAL PIPE SECTIONS

- A. Contractor shall terminate all vacuum mains and stubs with an end-of-line marker where shown on the drawings and in accordance with the Details.

End of Section

# **Appendix A**

## **Subsurface Exploration Data**

## Important Information About Your Geotechnical Engineering Report

*Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.*

*The following information is provided to help you manage your risks.*

### **Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects**

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared solely for the client. No one except you should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one—not even you—should apply the report for any purpose or project except the one originally contemplated.*

### **Read the Full Report**

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

### **A Geotechnical Engineering Report Is Based on A Unique Set of Project-Specific Factors**

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,

- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

### **Subsurface Conditions Can Change**

A geotechnical engineering report is based on conditions that existed at the time the study was performed. *Do not rely on a geotechnical engineering report* whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. *Always* contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

### **Most Geotechnical Findings Are Professional Opinions**

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ—sometimes significantly—from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

### **A Report's Recommendations Are *Not* Final**

Do not overrely on the construction recommendations included in your report. *Those recommendations are not final*, because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations only by observing actual

subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's recommendations if that engineer does not perform construction observation.*

### **A Geotechnical Engineering Report Is Subject to Misinterpretation**

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing construction observation.

### **Do Not Redraw the Engineer's Logs**

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should never be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, but recognize that separating logs from the report can elevate risk.

### **Give Contractors a Complete Report and Guidance**

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, but preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. Be sure contractors have sufficient time to perform additional study. Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

### **Read Responsibility Provisions Closely**

Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that

have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations" many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

### **Geoenvironmental Concerns Are Not Covered**

The equipment, techniques, and personnel used to perform a *geoenvironmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. *Do not rely on an environmental report prepared for someone else.*

### **Obtain Professional Assistance To Deal with Mold**

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, a number of mold prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; *none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.*

### **Rely on Your ASFE-Member Geotechnical Engineer for Additional Assistance**

Membership in ASFE/The Best People on Earth exposes geotechnical engineers to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a construction project. Confer with you ASFE-member geotechnical engineer for more information.

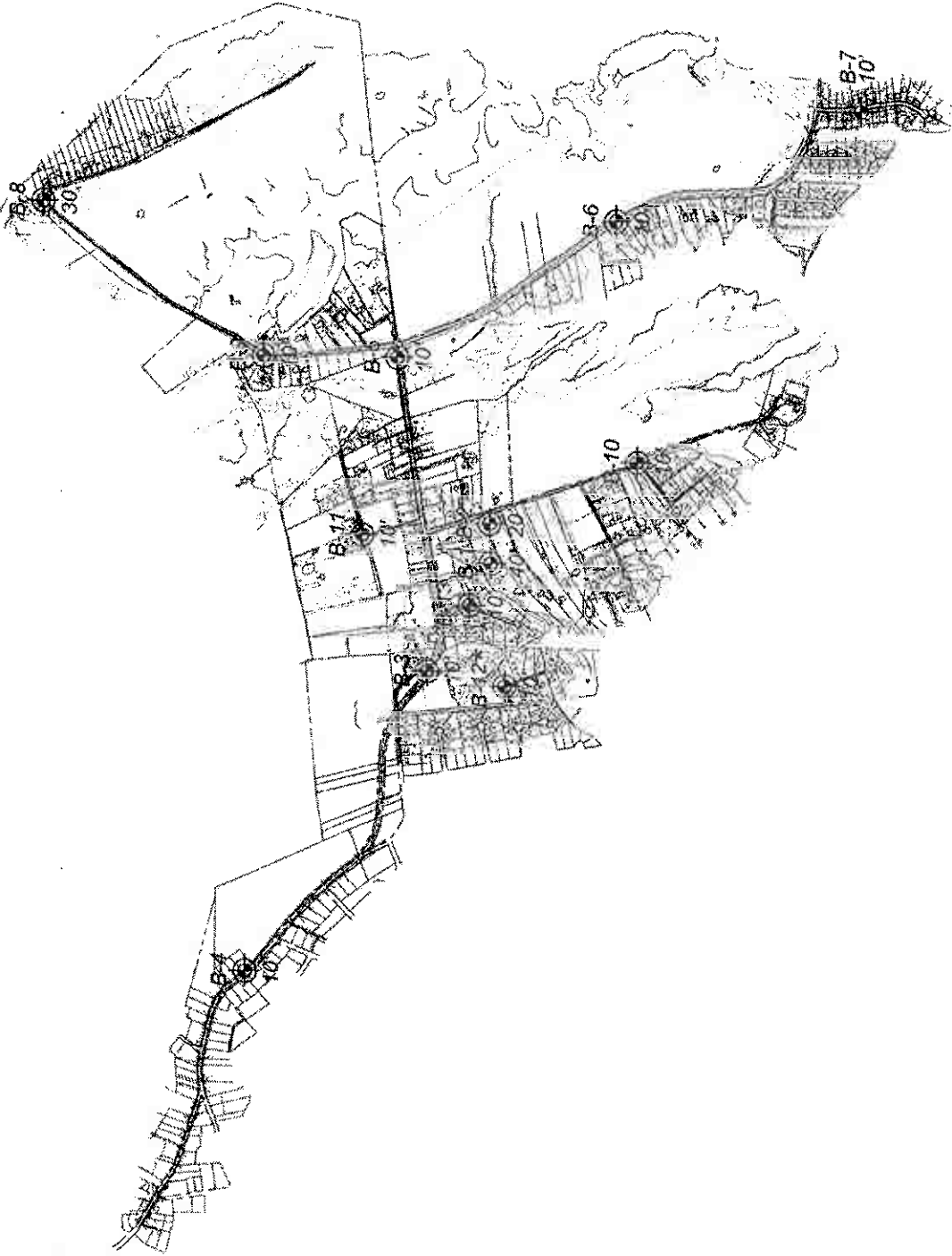


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NGER06045.GM





Approximate  
North

⊕ Approximate Location of Soil Test Boring

\* Note: Boring B-12 was not performed

SOURCE: Rummel, Klepper and Kahl, LLP



FROEHLING & ROBERTSON, INC.  
FULL SERVICE LANDSCAPE ARCHITECTS, ENGINEERS & DESIGNERS  
OVER ONE HUNDRED YEARS OF SERVICE

Scale: Not to Scale

Date: December 2006

F61-854G

Drawn By:

Revised: jps

### BORING LOCATION PLAN

York Point Sanitary Sewer Project  
York County, Virginia

Drawing Number  
1

# BORING LOG



**FROEHLING & ROBERTSON, INC.**  
 GEOTECHNICAL • ENVIRONMENTAL • MATERIALS  
 ENGINEERS • LABORATORIES  
 "OVER ONE HUNDRED YEARS OF SERVICE"

Report No.: **F61-854G**

Date: **December 2006**

Client: **Rummel, Kleppler and Kahl, LLP**

Project: **York Point Sanitary Sewer Project, York County, Virginia**

Boring No.: **B-3 (1 of 1)** Total Depth: **10.0'** Elev: **Ground Surface ±** Location: **See Boring Location Plan**

Type of Boring: **Hollow Stem Auger** Started: **9/18/06** Completed: **9/18/06** Driller: **W. Gooden**

Elevation	Depth	DESCRIPTION OF MATERIALS (USCS Classification)	* Sample Blows	Sample Depth (feet)	N Value (blows/ ft)	REMARKS
	0.3	Loose, Dark Brown, Silty Fine SAND with little organics, moist (Surficial Soil)	5-6-6 -6	0.0	12	The hydrostatic groundwater level was judged to be encountered at a depth of approximately 4 feet below the existing ground surface during drilling.
	1.5	Medium Dense, Brown, Fine SAND with little silt, moist (SM)	6-6-8 -9	2.0	14	
	4.0	Medium Dense, Gray Mottled Brown, Silty Fine SAND, moist to wet (SM)	5-6-8 -8	4.0	14	
	6.0	Medium Dense, Gray, Silty Fine SAND, wet (SM)	5-3-3 -6	6.0	6	
	8.0	Firm, Gray, Fine Sandy SILT, wet (ML)	3-4-4 -4	8.0	8	
	10.0	Boring terminated at a depth of 10 feet.		10.0		

\*Number of blows required for a 140 lb safety hammer dropping 30" to drive 2" O.D., 1.375" I.D. split-spoon sampler in successive 6" increments. The sum of the second and third increments of penetration is termed the Standard Penetration Test value, "N".

# BORING LOG



**FROEHLING & ROBERTSON, INC.**  
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 "OVER ONE HUNDRED YEARS OF SERVICE"

Report No.: **F61-854G**

Date: **December 2006**

Client: **Rummel, Kleppler and Kahl, LLP**

Project: **York Point Sanitary Sewer Project, York County, Virginia**

Boring No.: **B-4 (1 of 1)** Total Depth: **10.0'** Elev.: **Ground Surface ±** Location: **See Boring Location Plan**

Type of Boring: **Hollow Stem Auger** Started: **9/18/06** Completed: **9/18/06** Driller: **W. Gooden**

Elevation	Depth	DESCRIPTION OF MATERIALS (USCS Classification)	* Sample Blows	Sample Depth (feet)	N Value (blows/ ft)	REMARKS
	0.2	Loose, Dark Brown, Silty Fine SAND with little organics, moist (Surficial Soil) Firm, Gray Mottled Brown, Fine Sandy SILT, wet (ML)	8-8-6	0.0	14	The hydrostatic groundwater level was judged to be encountered at a depth of approximately 4 feet below the existing ground surface during drilling.
			-6	2.0		
			3-4-6	4.0	10	
			-7	6.0	6	
	7.0	Medium Dense, Gray, Silty Fine SAND with little to trace shell fragments, wet (SM)	3-3-3	8.0	8	
			-3	10.0	14	
			3-3-5			
			-10			
			5-6-8			
			-11			
	10.0	Boring terminated at a depth of 10 feet.				

BORING LOG F61-854G.CPJ F&R.GDT 12/11/06

\*Number of blows required for a 140 lb safety hammer dropping 30" to drive 2" O.D., 1.375" I.D. split-spoon sampler in successive 6" increments. The sum of the second and third increments of penetration is termed the Standard Penetration Test value, "N".

# BORING LOG



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Report No.: **F61-854G**

Date: **December 2006**

Client: **Rummel, Kleppler and Kahl, LLP**

Project: **York Point Sanitary Sewer Project, York County, Virginia**

Boring No.: **B-5** (1 of 1) Total Depth: **10.0'** Elev: **Ground Surface ±** Location: **See Boring Location Plan**

Type of Boring: **Hollow Stem Auger** Started: **9/18/06** Completed: **9/18/06** Driller: **W. Gooden**

Elevation	Depth	DESCRIPTION OF MATERIALS (USCS Classification)	* Sample Blows	Sample Depth (feet)	N Value (blows/ ft)	REMARKS
	0.3	Loose, Dark Brown, Silty Fine SAND with little organics, moist (Surficial Soil)	5-6-8	0.0		
			-10		14	
		Medium Dense, Brown, Silty Fine to Medium SAND, moist (SM-FILL)	8-8-10	2.0		
			-11		18	
	3.5	Loose, Dark Brown, Silty Fine SAND with little organics, moist (Surficial Soil)	5-3-3	4.0		
	4.0		-6		6	
	6.0	Firm, Gray, CLAY with little fine sand and organics, wet (CH)	6-5-4	6.0		
			-2		9	
	8.0	Loose, Gray, Silty Fine SAND, wet (SM)	6-10-10	8.0		
			-11		20	
	10.0	Medium Dense, Brown, Shell Fragments with little fine sand, wet (SM)		10.0		
		Boring terminated at a depth of 10 feet.				

\*Number of blows required for a 140 lb safety hammer dropping 30" to drive 2" O.D., 1.375" I.D. split-spoon sampler in successive 6" increments. The sum of the second and third increments of penetration is termed the Standard Penetration Test value, "N".

# BORING LOG



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 "OVER ONE HUNDRED YEARS OF SERVICE"

Report No.: **F61-854G**

Date: **December 2006**

Client: <b>Rummel, Kleppler and Kahl, LLP</b>						
Project: <b>York Point Sanitary Sewer Project, York County, Virginia</b>						
Boring No.: <b>B-6</b>	<b>(1 of 1)</b>	Total Depth <b>10.0'</b>	Elev: <b>Ground Surface ±</b>	Location: <b>See Boring Location Plan</b>		
Type of Boring: <b>Hollow Stem Auger</b>		Started: <b>9/18/06</b>	Completed: <b>9/18/06</b>	Driller: <b>W. Gooden</b>		
Elevation	Depth	DESCRIPTION OF MATERIALS (USCS Classification)	* Sample Blows	Sample Depth (feet)	N Value (blows/ ft)	REMARKS
	0.2	Loose, Dark Brown, Silty Fine SAND with little organics, moist (Surficial Soil) Loose, Gray, Silty Fine SAND, moist (SM)	3-3-3 -3	0.0	6	The hydrostatic groundwater level was judged to be encountered at a depth of approximately 4 feet below the existing ground surface during drilling.
			3-3-5 -9	2.0		
	4.0	Medium Dense to Very Loose, Gray Mottled Brown, Silty Fine SAND, wet (SM)	5-7-8 -8	4.0	8	
			3-2-2 -2	6.0	15	
			2-2-2 -2	8.0	4	
	10.0	Boring terminated at a depth of 10 feet.		10.0	4	

BORING LOG F61-854G.GPJ F&R.GDT 12/11/06

\*Number of blows required for a 140 lb safety hammer dropping 30" to drive 2" O.D., 1.375" I.D. split-spoon sampler in successive 6" increments. The sum of the second and third increments of penetration is termed the Standard Penetration Test value, "N".

# BORING LOG



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 "OVER ONE HUNDRED YEARS OF SERVICE"

Report No.: **F61-854G**

Date: **December 2006**

Client: <b>Rummel, Kleppler and Kahl, LLP</b>						
Project: <b>York Point Sanitary Sewer Project, York County, Virginia</b>						
Boring No.: <b>B-7</b>		<b>(1 of 1)</b>	Total Depth <b>10.0'</b>	Elev: <b>Ground Surface ±</b>	Location: <b>See Boring Location Plan</b>	
Type of Boring: <b>Hollow Stem Auger</b>			Started: <b>9/18/06</b>	Completed: <b>9/18/06</b>	Driller: <b>W. Gooden</b>	
Elevation	Depth	DESCRIPTION OF MATERIALS (USCS Classification)	* Sample Blows	Sample Depth (feet)	N Value (blows/ ft)	REMARKS
	0.3	Loose, Dark Brown, Silty Fine SAND with little organics, moist (Surficial Soil)	2-2-3	0.0	5	The hydrostatic groundwater level was judged to be encountered at a depth of approximately 3 feet below the existing ground surface during drilling.
	1.5		-7			
		Loose Gray Mottled Brown, Silty Fine SAND, moist (SM)	8-6-3	2.0	9	
			-2			
	4.0	Loose, Gray, Fine SAND with little silt, moist to wet (SM)	2-4-2	4.0	6	
		Firm, Brown, Silty CLAY with little fine sand, wet (CH)	-2			
	6.0	Medium Dense, Gray, Fine SAND with little silt, wet (SM)	3-5-6	6.0	11	
			-6			
	8.0	Loose, Gray, Silty Fine SAND wet (SM)	3-2-2	8.0	4	
			-5			
	10.0	Boring terminated at a depth of 10 feet.				

BORING LOG F61-854G.GPJ F&R.GDT 12/11/06

\*Number of blows required for a 140 lb safety hammer dropping 30" to drive 2" O.D., 1.375" I.D. split-spoon sampler in successive 6" increments. The sum of the second and third increments of penetration is termed the Standard Penetration Test value, "N".

# BORING LOG



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 "OVER ONE HUNDRED YEARS OF SERVICE"

Report No.: **F61-854G**

Date: **December 2006**

Client: **Rummel, Kleppler and Kahl, LLP**

Project: **York Point Sanitary Sewer Project, York County, Virginia**

Boring No.: **B-8 (1 of 1)** Total Depth: **30.0'** Elev.: **Ground Surface ±** Location: **See Boring Location Plan**

Type of Boring: **Mud Rotary** Started: **7/27/06** Completed: **7/27/06** Driller: **W. Gooden**

Elevation	Depth	DESCRIPTION OF MATERIALS (USCS Classification)	* Sample Blows	Sample Depth (feet)	N Value (blows/ ft)	REMARKS
	0.5	Loose, Dark Brown, Silty Fine SAND with little organics, moist (Surficial Soil)	6-5-5 -5	0.0	10	The hydrostatic groundwater level was judged to be encountered at a depth of approximately 3 feet below the existing ground surface during drilling.
	2.0	Loose, Light Brown, Silty Fine SAND with little clay and trace organics, moist (SM)	5-3-3 -3	2.0	6	
	4.0	Loose, Dark Brown, Silty Fine SAND with trace organics, moist to wet (SM)	5-11-12 -8	4.0	23	
	6.0	Medium Dense, Light Gray, Fine SAND with little silt, wet (SM)	2-3-3 -3	6.0	6	
	8.0	Loose, Gray, Silty Fine SAND with little clay, wet (SM)	2-3-3 -2	8.0	6	
				10.0	6	
				13.5	6	
				15.0	6	
	17.0	Medium Dense, Gray, Silty Fine SAND with trace clay, wet (SM)	5-8-16	18.5	24	
				20.0	24	
				23.5	10	
				25.0	10	
				28.5	16	
	30.0	Boring terminated at a depth of 30 feet.		30.0	16	

\*Number of blows required for a 140 lb safety hammer dropping 30" to drive 2" O.D., 1.375" I.D. split-spoon sampler in successive 6" increments. The sum of the second and third increments of penetration is termed the Standard Penetration Test value, "N".

# BORING LOG



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 "OVER ONE HUNDRED YEARS OF SERVICE"

Report No.: **F61-854G**

Date: **December 2006**

Client: **Rummel, Kleppler and Kahl, LLP**

Project: **York Point Sanitary Sewer Project, York County, Virginia**

Boring No.: **B-9** (1 of 1) Total Depth: **10.0'** Elev.: **Ground Surface ±** Location: **See Boring Location Plan**

Type of Boring: **Hollow Stem Auger** Started: **9/19/06** Completed: **9/19/06** Driller: **W. Gooden**

Elevation	Depth	DESCRIPTION OF MATERIALS (USCS Classification)	* Sample Blows	Sample Depth (feet)	N Value (blows/ ft)	REMARKS
	0.2	Loose, Dark Brown, Silty Fine SAND with little organics, moist (Surficial Soil)	7-6-7	0.0	13	The hydrostatic groundwater level was judged to be encountered at a depth of approximately 3 feet below the existing ground surface during drilling.
	2.0		-7	2.0		
		Medium Dense, Brown, Silty Fine SAND, moist (SM) Firm to Soft, Gray Mottled Brown, CLAY with little fine sand, moist to wet (CL)	4-4-4		8	
			-6	4.0	4	
	6.0	Loose, Gray, Silty Fine SAND, wet (SM)	2-2-2		6	
	8.0		-3	6.0	12	
		Medium Dense, Gray, Silty Fine SAND with little shell fragments, wet (SM)	4-5-7	8.0		
	10.0		-8	10.0		
		Boring terminated at a depth of 10 feet.				

BORING LOG F61-854G.CPJ F&R.GDT 12/11/06

\*Number of blows required for a 140 lb safety hammer dropping 30" to drive 2" O.D., 1.375" I.D. split-spoon sampler in successive 6" increments. The sum of the second and third increments of penetration is termed the Standard Penetration Test value, "N".



# BORING LOG



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 "OVER ONE HUNDRED YEARS OF SERVICE"

Report No.: **F61-854G**

Date: **December 2006**

Client: <b>Rummel, Kleppler and Kahl, LLP</b>						
Project: <b>York Point Sanitary Sewer Project, York County, Virginia</b>						
Boring No.: <b>B-10</b>	(1 of 1)	Total Depth	<b>10.0'</b>	Elev:	<b>Ground Surface ±</b>	Location: <b>See Boring Location Plan</b>
Type of Boring: <b>Hollow Stem Auger</b>		Started: <b>9/18/06</b>		Completed: <b>9/18/06</b>		Driller: <b>W. Gooden</b>
Elevation	Depth	DESCRIPTION OF MATERIALS (USCS Classification)	* Sample Blows	Sample Depth (feet)	N Value (blows/ ft)	REMARKS
	0.2	Loose, Dark Brown, Silty Fine SAND with little organics, moist (Surficial Soil) Medium Dense, Dark Brown to Brown, Silty Fine SAND, moist (SM) Loose, Gray Mottled Brown, Silty Fine SAND, moist to wet (SM)	4-5-8	0.0	13	The hydrostatic groundwater level was judged to be encountered at a depth of approximately 3 feet below the existing ground surface during drilling.
	2.0		-11			
			6-4-4	2.0		
			-5			
			4-4-5	4.0		
			-6			
			3-3-3	6.0	9	
			-5		6	
			5-4-4	8.0	8	
			-5			
	10.0	Boring terminated at a depth of 10 feet.		10.0		

BORING LOG F61-854G.GPJ F&R.GDT 12/11/06

\*Number of blows required for a 140 lb safety hammer dropping 30" to drive 2" O.D., 1.375" I.D. split-spoon sampler in successive 6" increments. The sum of the second and third increments of penetration is termed the Standard Penetration Test value, "N".

# BORING LOG



**FROEHLING & ROBERTSON, INC.**  
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 "OVER ONE HUNDRED YEARS OF SERVICE"

Report No.: **F61-854G**

Date: **December 2006**

Client: <b>Rummel, Kleppler and Kahl, LLP</b>						
Project: <b>York Point Sanitary Sewer Project, York County, Virginia</b>						
Boring No.: <b>B-11</b>		(1 of 1)	Total Depth <b>10.0'</b>	Elev: <b>Ground Surface ±</b>	Location: <b>See Boring Location Plan</b>	
Type of Boring: <b>Hollow Stem Auger</b>			Started: <b>9/18/06</b>	Completed: <b>9/18/06</b>	Driller: <b>W. Gooden</b>	
Elevation	Depth	DESCRIPTION OF MATERIALS (USCS Classification)	* Sample Blows	Sample Depth (feet)	N Value (blows/ ft)	REMARKS
	0.2	Loose, Dark Brown, Silty Fine SAND with little organics, moist (Surficial Soil)	4-6-6	0.0	12	The hydrostatic groundwater level was judged to be encountered at a depth of approximately 4 feet below the existing ground surface during drilling.
	2.0		4-3-3	2.0		
		Medium Dense, Dark Brown to Brown, Silty Fine SAND, moist (SM)	-4	6		
			3-5-7	4.0		
		Loose to Medium Dense, Gray, Silty Fine SAND, moist to wet (SM)	-8	12		
	6.0		3-3-3	6.0		
		Firm, Gray Mottled Brown, Fine Sandy SILT, wet (ML)	-4	6		
	8.0		3-3-3	8.0		
		Loose, Gray, Silty Fine SAND, wet (SM)	-3	6		
	10.0			10.0		
		Boring terminated at a depth of 10 feet.				

\*Number of blows required for a 140 lb safety hammer dropping 30" to drive 2" O.D., 1.375" I.D. split-spoon sampler in successive 6" increments. The sum of the second and third increments of penetration is termed the Standard Penetration Test value, "N".

# BORING LOG



**FROEHLING & ROBERTSON, INC.**  
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 "OVER ONE HUNDRED YEARS OF SERVICE"

Report No.: **F61-854G**

Date: **December 2006**

Client: <b>Rummel, Kleppler and Kahl, LLP</b>						
Project: <b>York Point Sanitary Sewer Project, York County, Virginia</b>						
Boring No.: <b>B-13</b>		(1 of 1)	Total Depth <b>10.0'</b>	Elev: <b>Ground Surface ±</b>	Location: <b>See Boring Location Plan</b>	
Type of Boring: <b>Hollow Stem Auger</b>			Started: <b>9/18/06</b>	Completed: <b>9/18/06</b>	Driller: <b>W. Gooden</b>	
Elevation	Depth	DESCRIPTION OF MATERIALS (USCS Classification)	* Sample Blows	Sample Depth (feet)	N Value (blows/ ft)	REMARKS
	0.2	Loose, Dark Brown, Silty Fine SAND with little organics, moist (Surficial Soil) Medium Dense, Gray to Light Gray, Silty Fine SAND, moist to wet (SM)	5-6-6 -5	0.0	12	The hydrostatic groundwater level was judged to be encountered at a depth of approximately 4 feet below the existing ground surface during drilling.
			3-4-7 -6	2.0	11	
			4-7-8 -9	4.0	15	
	6.0	Soft, Gray Mottled Brown, Fine Sandy SILT, wet (ML)	3-2-2 -2	6.0	4	
	8.0	Loose, Gray, Silty Fine SAND, wet (SM)	4-3-3 -3	8.0	6	
	10.0			10.0		
		Boring terminated at a depth of 10 feet.				

BORING LOG F61-854G.OPJ F&R.GDT 12/11/06

\*Number of blows required for a 140 lb safety hammer dropping 30" to drive 2" O.D., 1.375" I.D. split-spoon sampler in successive 6" increments. The sum of the second and third increments of penetration is termed the Standard Penetration Test value, "N".

## KEY TO BORING LOG SOIL CLASSIFICATIONS

### Particle Size and Proportion

Verbal descriptions are assigned to each soil sample or stratum based on estimates of the particle size of each component of the soil and the percentage of each component of the soil.

Particle Size Descriptive Terms		Proportion/ Descriptive Terms		
Soil Component	Particle Size	Component	Term	Percentage
Boulder	> 12 inch	Major	Uppercase Letters (e.g., SAND, CLAY)	> 50%
Cobble	3 - 12 inch	Secondary	Adjective (e.g., sandy, clayey)	20%-50%
Gravel-Coarse	3/4 - 3 inch			
-Fine	#4 - 3/4 inch			
Sand-Coarse	#10 - #4			
-Medium	#40 - #10	Minor	Some	15%-25%
-Fine	#200 - #40		Little	5%-15%
Silt (non-cohesive)	< #200		Trace	0%-5%
Clay (cohesive)	< #200			
Notes: 1. Particle size is designated by U.S. Standard Sieve Sizes. 2. Because of the small size of the split-spoon sampler relative to the size of gravel, the true percentage of gravel may not be accurately estimated.				

### Density or Consistency

The standard penetration resistance values (N-values) are used to describe the density of coarse-grained soils (GRAVEL, SAND) or the consistency of fine-grained soils (SILT, CLAY). Sandy silts of very low plasticity may be assigned a density instead of a consistency.

DENSITY		CONSISTENCY	
Term	N-Value	Term	N-Value
Very Loose	0 - 4	Very Soft	0 - 1
Loose	5 - 10	Soft	2 - 4
Medium-Dense	11 - 30	Firm	5 - 8
Dense	31 - 50	Stiff	9 - 15
Very Dense	> 50	Very Stiff	16 - 30
		Hard	> 30
Notes: 1. The N-value is the number of blows of a 140 lb. Hammer freely falling 30 inches required to drive a standard split spoon sampler (2.0 in. O.D., 1 3/8 in. I.D.) 12 inches into the soil after properly seating the sampler six inches. 2. When encountered, gravel may increase the N-value of the standard penetration test and may not accurately represent the in-situ density or consistency of the soil sample.			



**SOIL CLASSIFICATION CHART - Adapted from ASTM D 2487**

MAJOR DIVISIONS	GROUP SYMBOLS	TYPICAL NAMES	CLASSIFICATION CRITERIA
COARSE-GRAINED SOILS* More than 50% retained on No. 200 sieve*	GRAVELS 50% or more of coarse fraction retained on No. 4 sieve	CLEAN GRAVELS	GW Well-graded gravels and gravel-sand mixtures, little or no fines GP Poorly graded gravels and gravel-sand mixtures, little or no fines
		GRAVELS WITH FINES	
	SANDS More than 50% of coarse fraction passes No. 4 sieve	CLEAN SANDS	SW Well-graded sands and gravelly sands, little or no fines SP Poorly graded sands and gravelly sands, little or no fines
		SANDS WITH FINES	
	SANDS WITH FINES	SM Silty sands, sand-silt mixtures	SC Clayey sands, sand-clay mixtures
		SC	
	SANDS WITH FINES	SM	SC
		SC	
	SANDS WITH FINES	SM	SC
		SC	
	SANDS WITH FINES	SM	SC
		SC	
FINE-GRAINED SOILS 50% or more passes No. 200 sieve*	SANDS WITH FINES	ML Inorganic silts, very fine sands, rock flour, silty or clayey fine sands	CL Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays OL Organic silts and organic silty clays of low plasticity
		CL	
		OL	
	SANDS WITH FINES	MH Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts	CH Inorganic clays of high plasticity, fat clays OH Organic clays of medium to high plasticity
		CH	
		OH	
	SANDS WITH FINES	PT Peat, muck and other highly organic soils	PT
		PT	
		PT	
	SANDS WITH FINES	PT	PT
		PT	
		PT	

Classification on basis of percentage of lines  
GW, GP, SW, SP  
GM, GC, SM, SC

Borderline Classification requiring use of dual symbols

Atterberg limits plot below "A" line and plasticity index greater than 4

Atterberg limits plotting in hatched area are borderline classifications requiring use of dual symbols

Atterberg limits plot above "A" line and plasticity index greater than 7

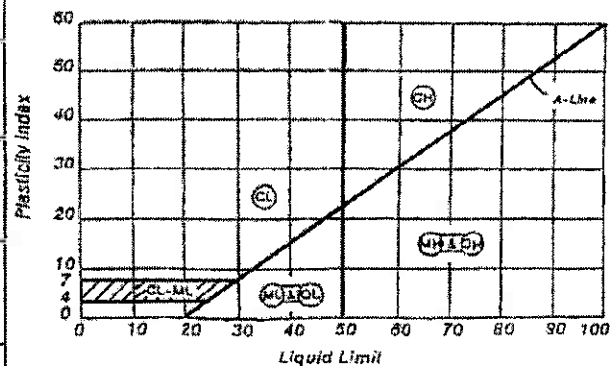
Atterberg limits plot below "A" line and plasticity index less than 4

Atterberg limits plotting in hatched area are borderline classifications requiring use of dual symbols

Atterberg limits plot above "A" line and plasticity index greater than 7

**PLASTICITY CHART**

For classification of fine-grained soils and fine fraction of coarse-grained soils.  
Atterberg limits plotting in hatched area are borderline classifications requiring use of dual symbols.  
Equation of A-line:  $PI = 0.73 (LL - 20)$



\*Based on the material passing the 3-in. (75-mm) sieve.

# Laboratory Test Summary Sheet

Boring/ Sample No.	Depth	LL	PL	PI	% Natural Moisture	% Gravel	% Sand	% Fines	USCS Class.	AASHTO Class.	Maximum Dry Density (pcf)	Optimum Moisture Content (%)	CBR Value
B-10	3.0	NP	NP	NP	20.4	0.0	73.4	26.7	SM	A-2-4			
B-11	3.0	NP	NP	NP	20.7	0.0	83.8	16.2	SM	A-2-4			
B-13	3.0	NP	NP	NP	18.1	0.0	85.4	14.6	SM	A-2-4			
B-3	3.0	NP	NP	NP	12.9	0.0	70.7	29.3	SM	A-2-4			
B-4	3.0	NP	NP	NP	22.5	0.4	49.2	50.3	ML	A-4			
B-5	3.0	NP	NP	NP	14.6	0.9	83.6	15.5	SM	A-2-4			
B-6	3.0	NP	NP	NP	18.2	0.0	75.9	24.1	SM	A-2-4			
B-7	3.0	NP	NP	NP	35.3	0.2	76.4	23.5	SM	A-2-4			
B-8	3.0	NP	NP	NP	21.2	0.0	69.5	30.6	SM	A-2-4			
B-8	9.0	NP	NP	NP	29.5	0.0	76.0	24.0	SM	A-2-4			
B-8	24.0	NP	NP	NP	36.1	0.2	77.4	22.4	SM	A-2-4			
B-9	3.0	35	15	20	23.3	0.2	30.9	68.9	CL	A-6			

SINCE



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Lab Test Summary

Sheet 1 of 1

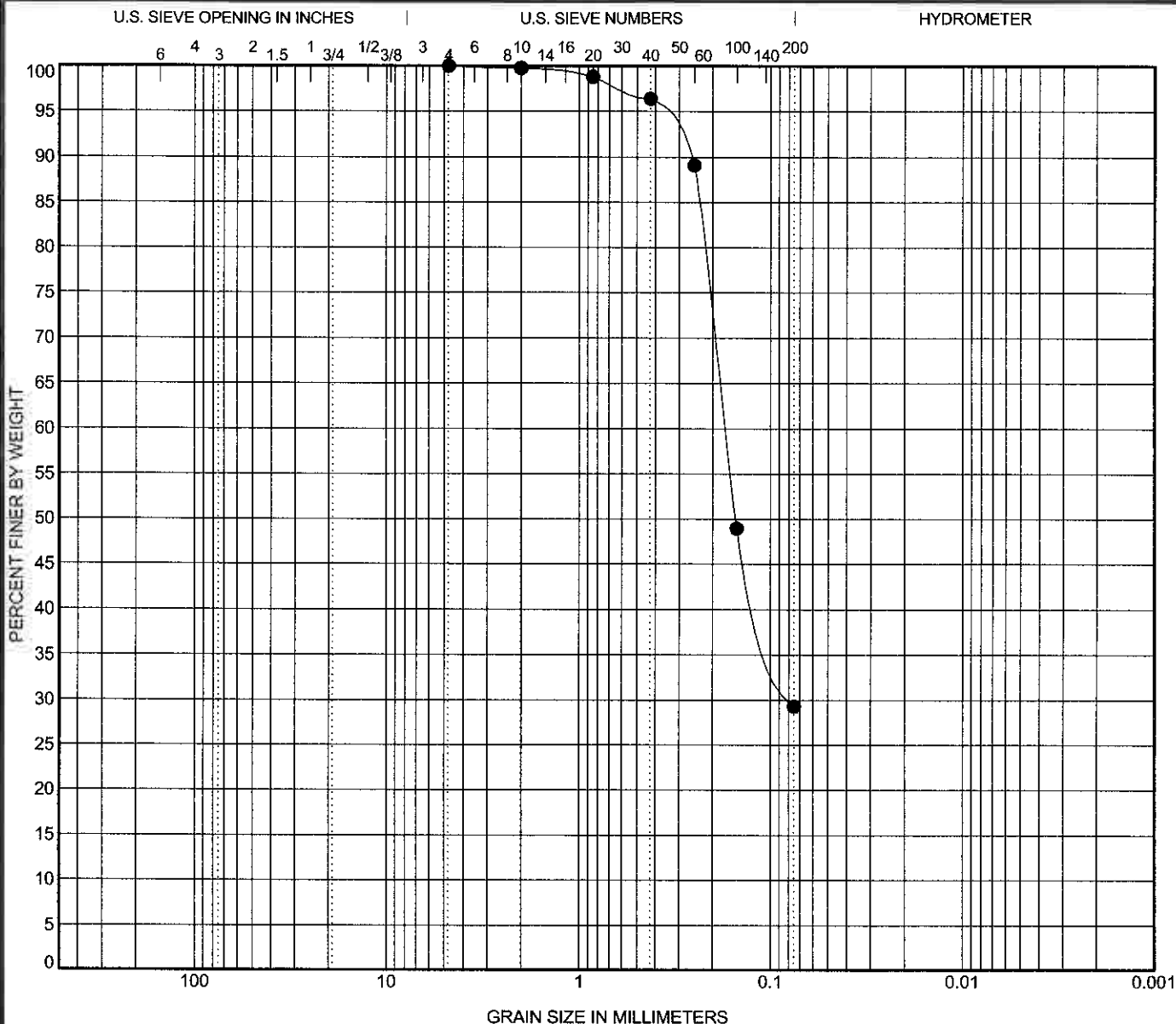
**Report No.:** F61-854G

**Client:** Rummel, Kleppner and Kahl, LLP

**Project:** York Point Sanitary Sewer Project

**Location:** York County, Virginia

**Date:** December 2006



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Boring No.	Depth	Classification	LL	PL	PI	Cc	Cu
B-3	at 3.0	SILTY SAND (SM)	NP	NP	NP		
	at						
	at						
	at						
	at						

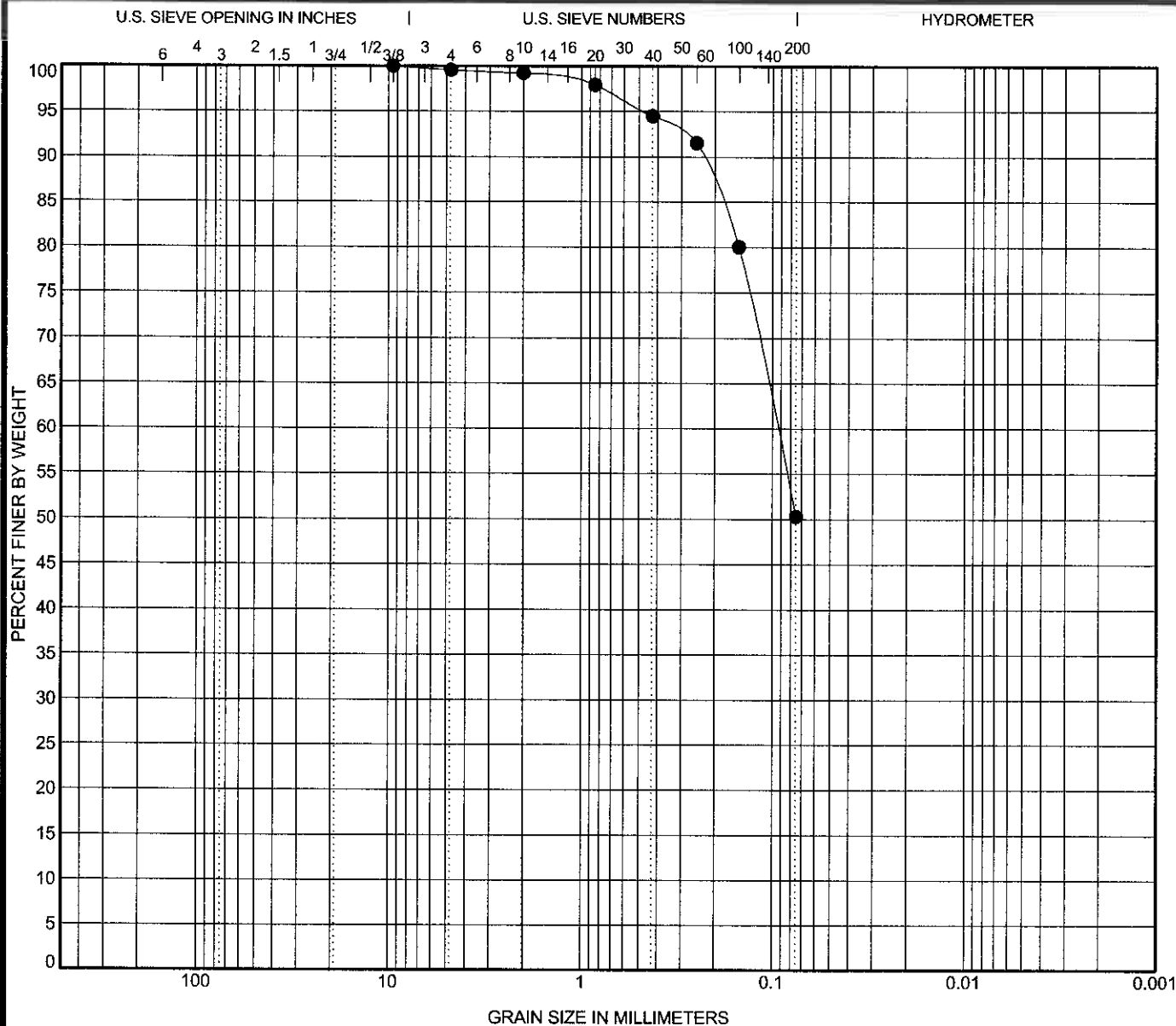
Boring No.	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-3	at 3.0	4.75	0.173	0.077		0.0	70.7	29.3	
	at								
	at								
	at								
	at								



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**Date:** December 2006



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Boring No.			Depth	Classification	LL	PL	PI	Cc	Cu
●	B-4	at	3.0	SANDY SILT (ML)	NP	NP	NP		
		at							
		at							
		at							
		at							

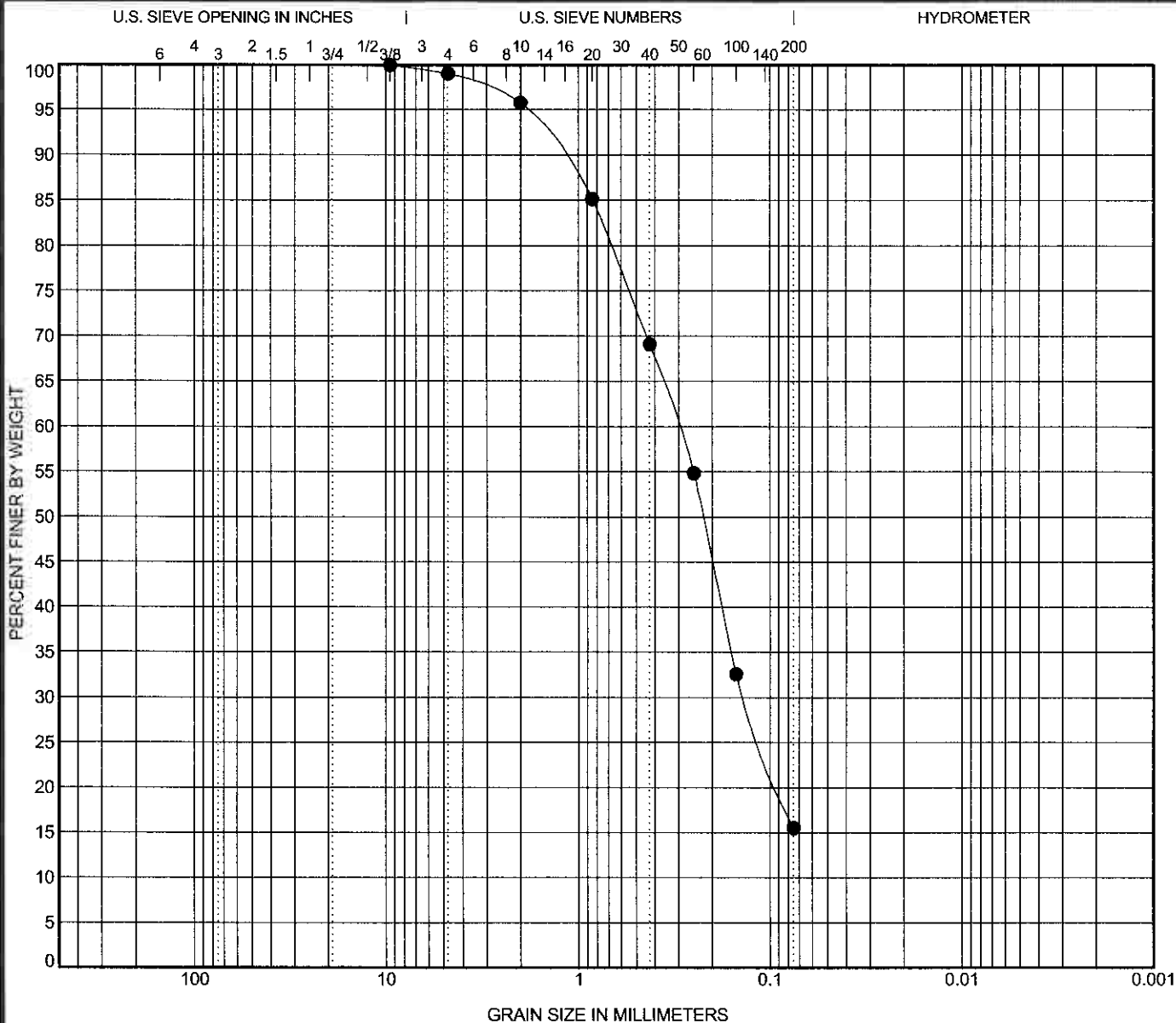
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<b>Project:</b>	York Point Sanitary Sewer Project
<b>Location:</b>	York County, Virginia
<b>Date:</b>	December 2006





COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Boring No.	Depth	Classification	LL	PL	PI	Cc	Cu
● B-5	at 3.0	SILTY SAND (SM)	NP	NP	NP		
	at						
	at						
	at						
	at						

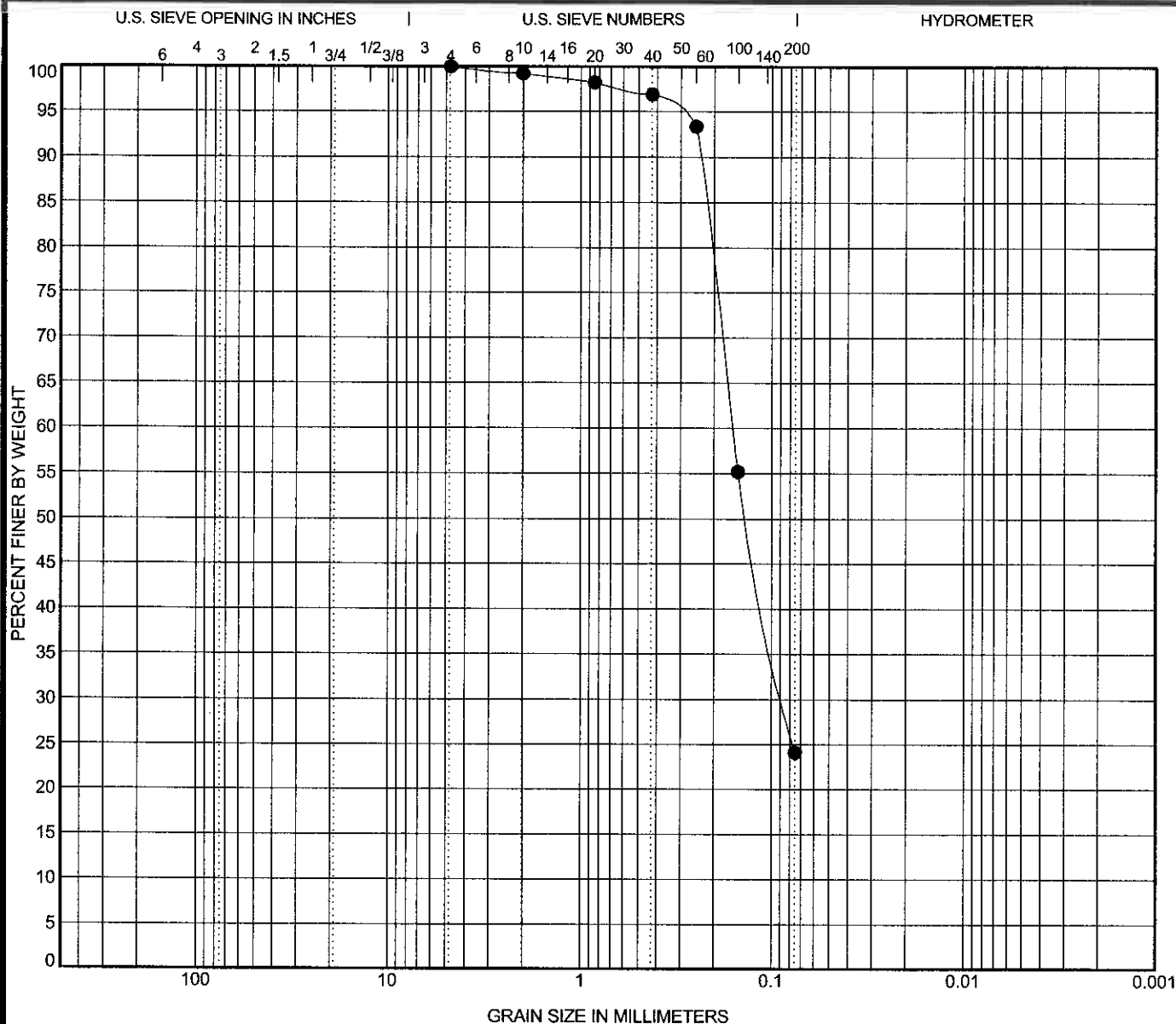
Boring No.	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● B-5	at 3.0	9.5	0.303	0.135		0.9	83.6		15.5
	at								
	at								
	at								
	at								

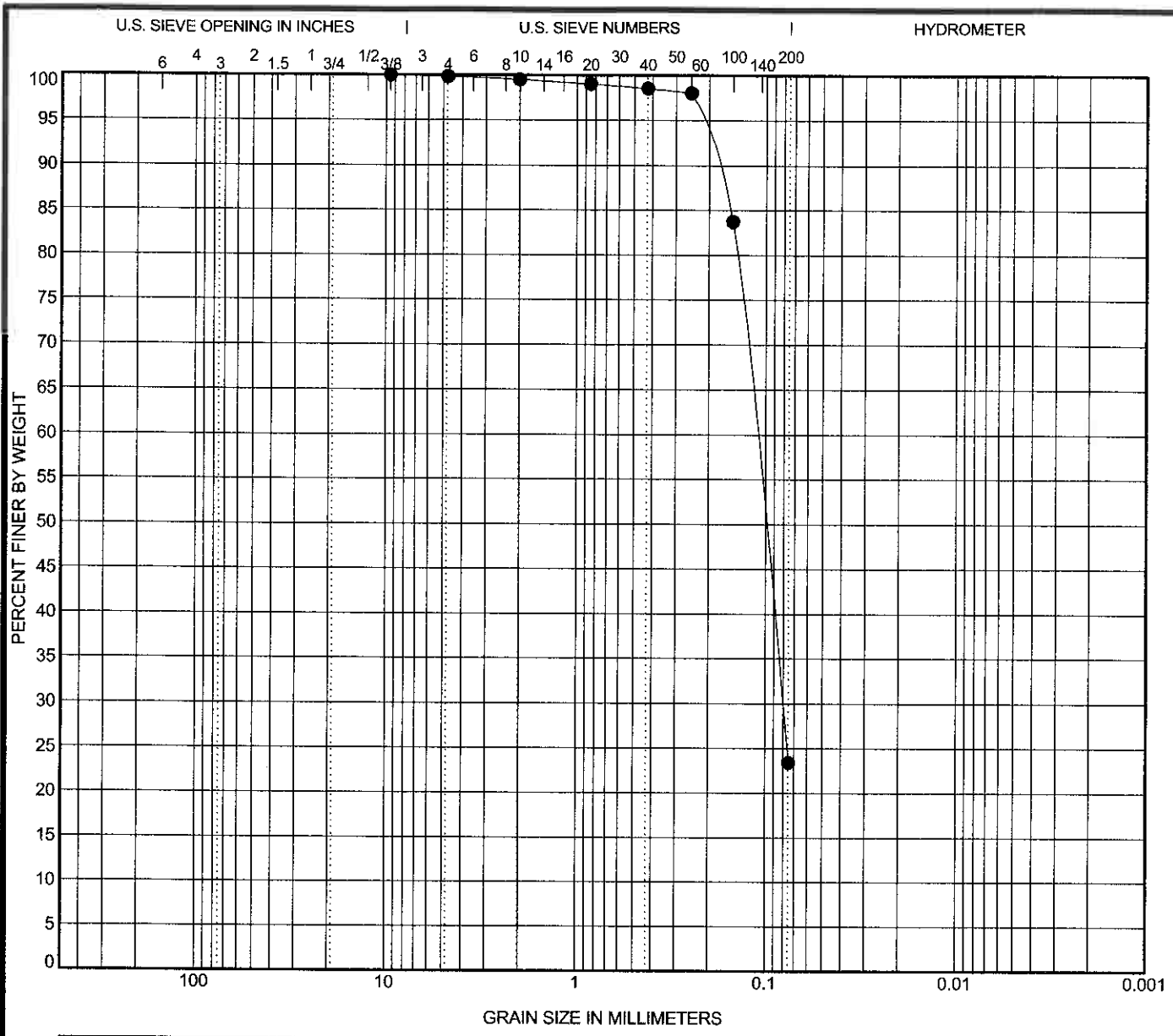


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**Date:** December 2006





COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Boring No.	Depth	Classification	LL	PL	PI	Cc	Cu
B-7	at 3.0	SILTY SAND (SM)	NP	NP	NP		
	at						
	at						
	at						
	at						

Boring No.	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-7	at 3.0	9.5	0.114	0.081		0.2	76.4	23.5	
	at								
	at								
	at								
	at								

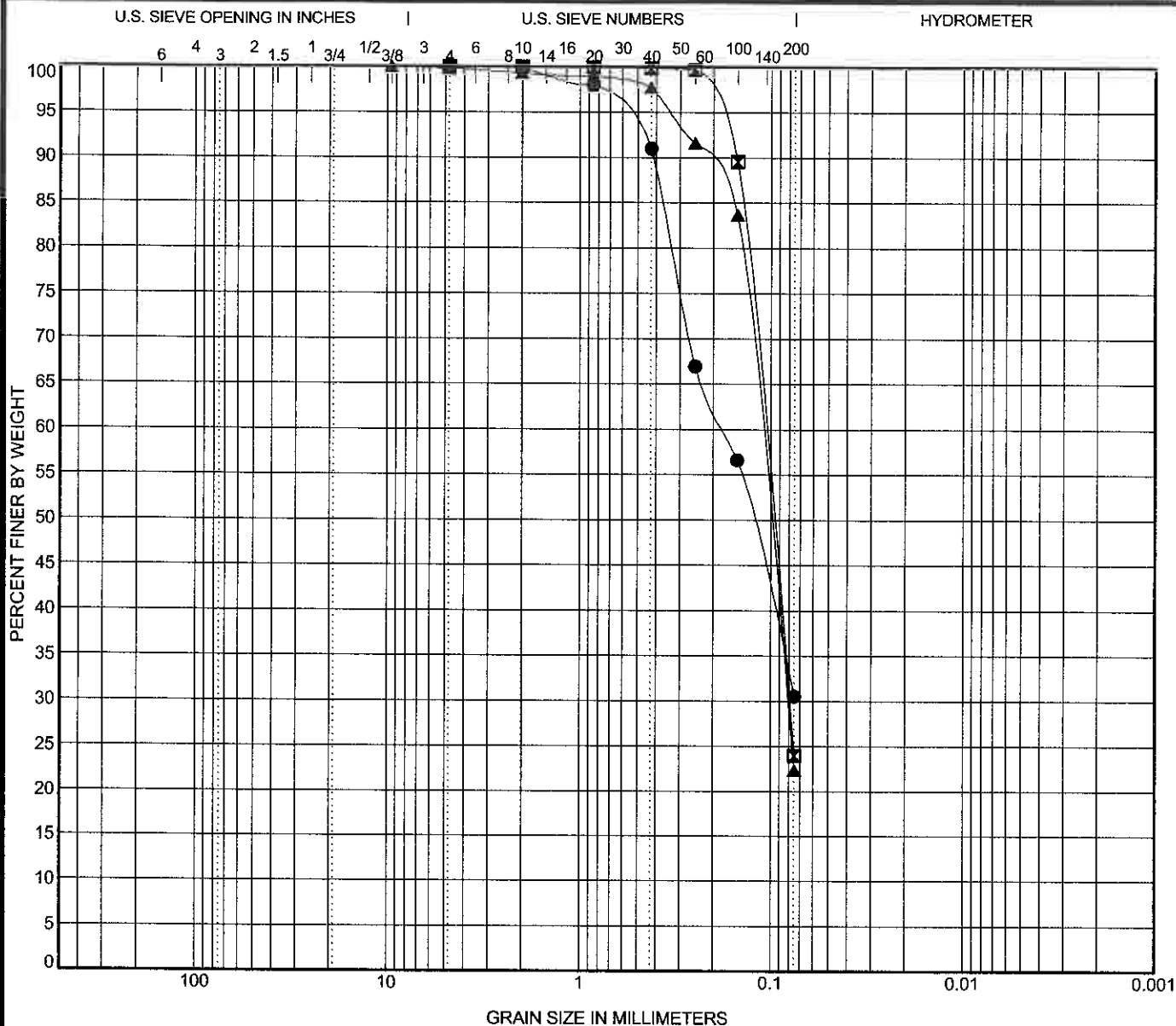


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**Location:** York County, Virginia  
**Date:** December 2006

US GRAIN SIZE F61-854G.GPJ F&R.GDT 12/11/06



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Boring No.	Depth	Classification	LL	PL	PI	Cc	Cu
● B-8 at 3.0		SILTY SAND (SM)	NP	NP	NP		
■ B-8 at 9.0		SILTY SAND (SM)	NP	NP	NP		
▲ B-8 at 24.0		SILTY SAND (SM)	NP	NP	NP		
	at						
	at						

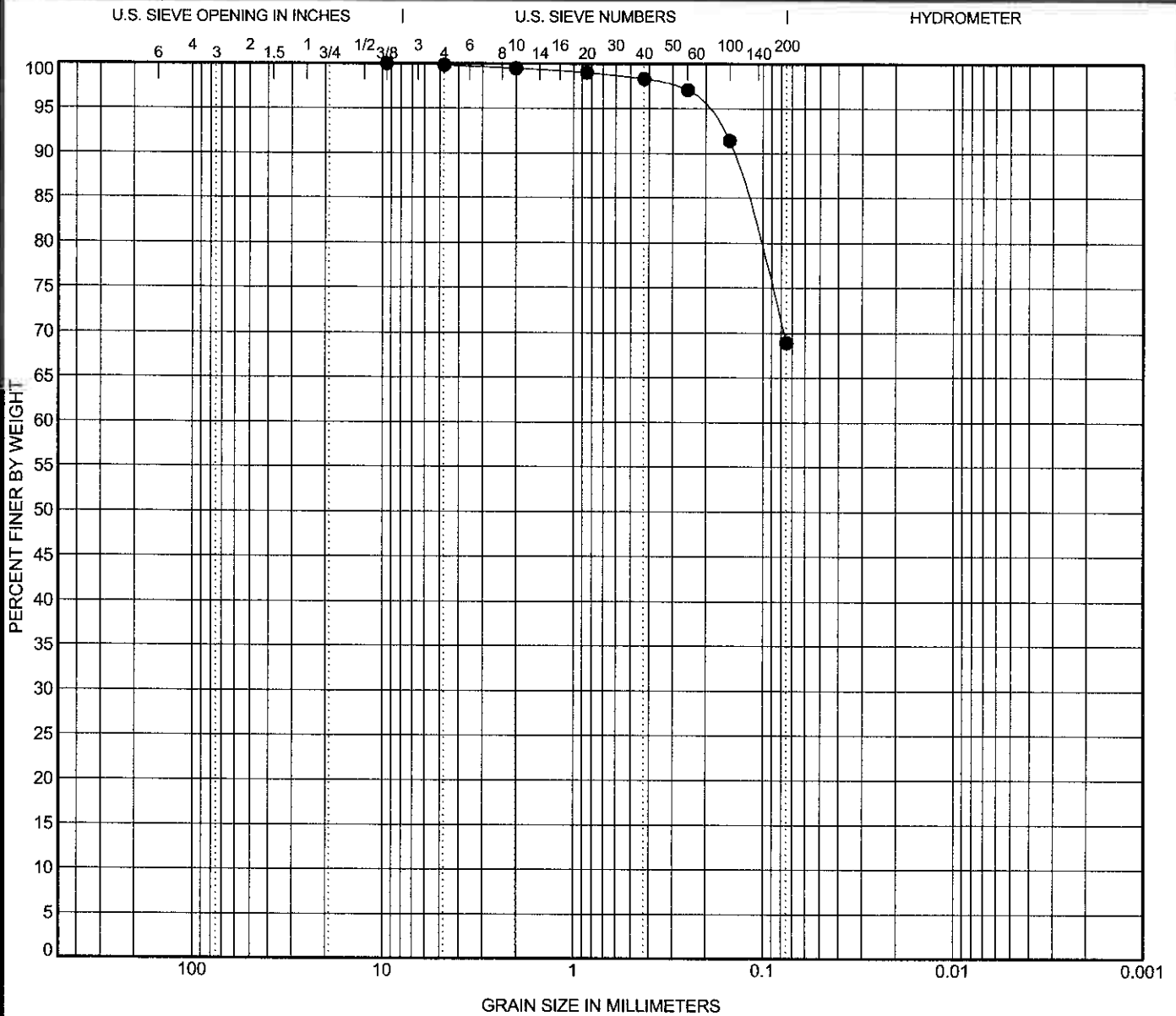
Boring No.	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● B-8 at 3.0		4.75	0.177			0.0	69.5	30.6	
■ B-8 at 9.0		4.75	0.11	0.08		0.0	76.0	24.0	
▲ B-8 at 24.0		9.5	0.115	0.082		0.2	77.4	22.4	
	at								
	at								



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**Date:** December 2006



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Boring No.	Depth	Classification	LL	PL	PI	Cc	Cu
B-9	at 3.0	SANDY LEAN CLAY (CL)	35	15	20		
	at						
	at						
	at						
	at						

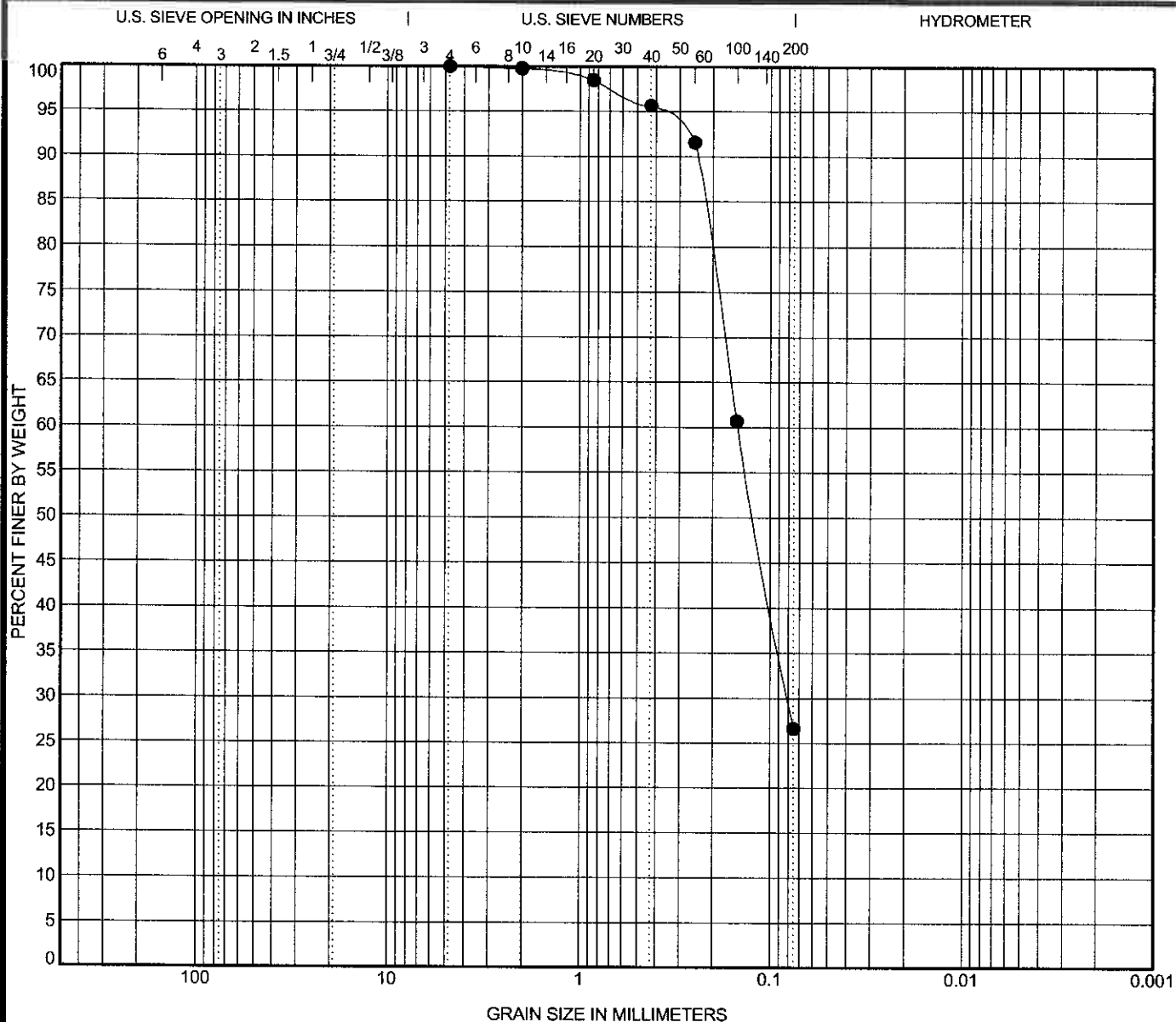
Boring No.	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-9	at 3.0	9.5				0.2	30.9	68.9	
	at								
	at								
	at								
	at								



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**Date:** December 2006



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Boring No.	Depth	Classification	LL	PL	PI	Cc	Cu
B-10	at 3.0	SILTY SAND (SM)	NP	NP	NP		
	at						
	at						
	at						
	at						

Boring No.	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-10	at 3.0	4.75	0.148	0.08		0.0	73.4	26.7	
	at								
	at								
	at								
	at								

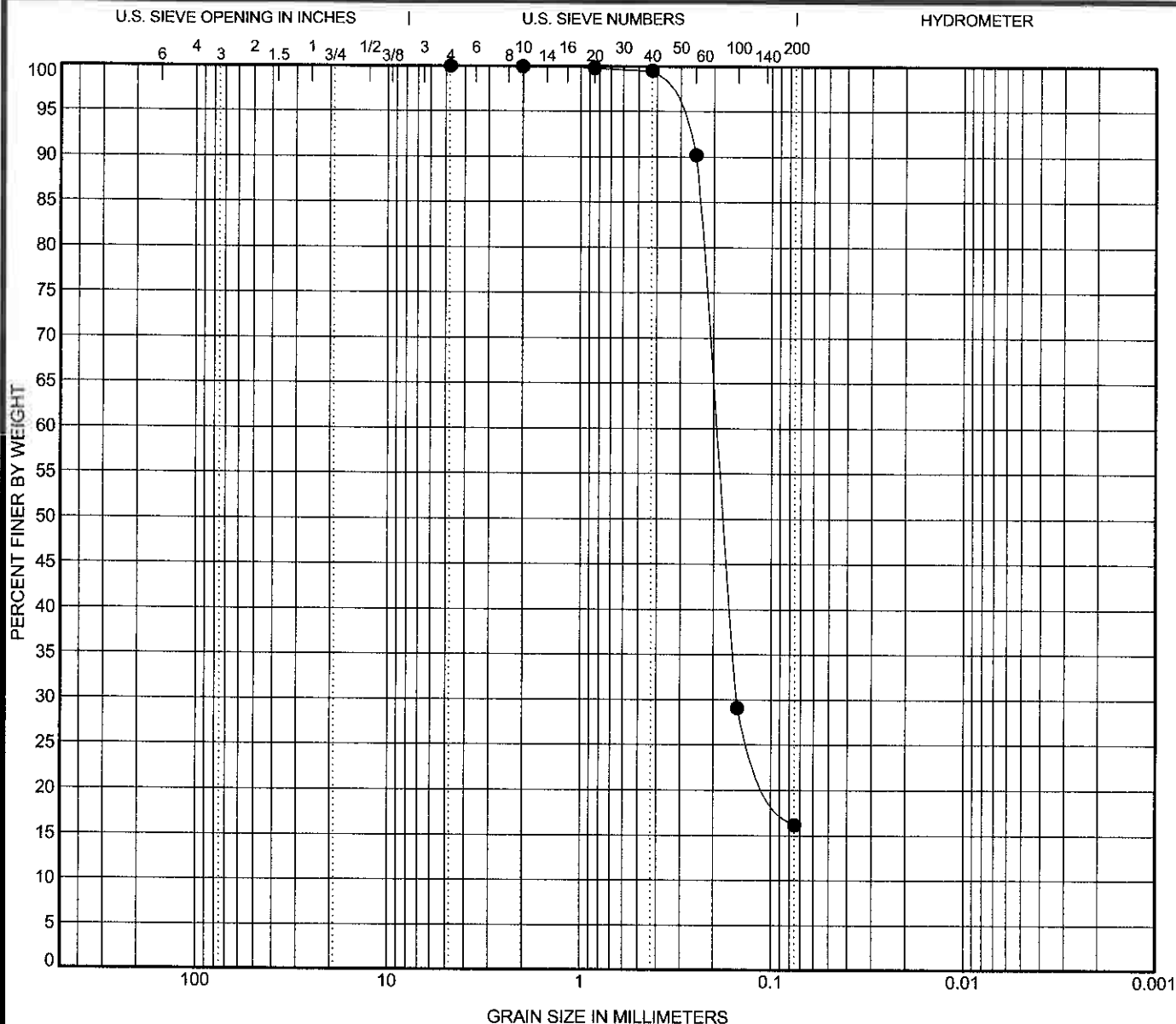


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U.S. GRAIN SIZE: F61-854G.GPJ F&R.GDY 12/11/06



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

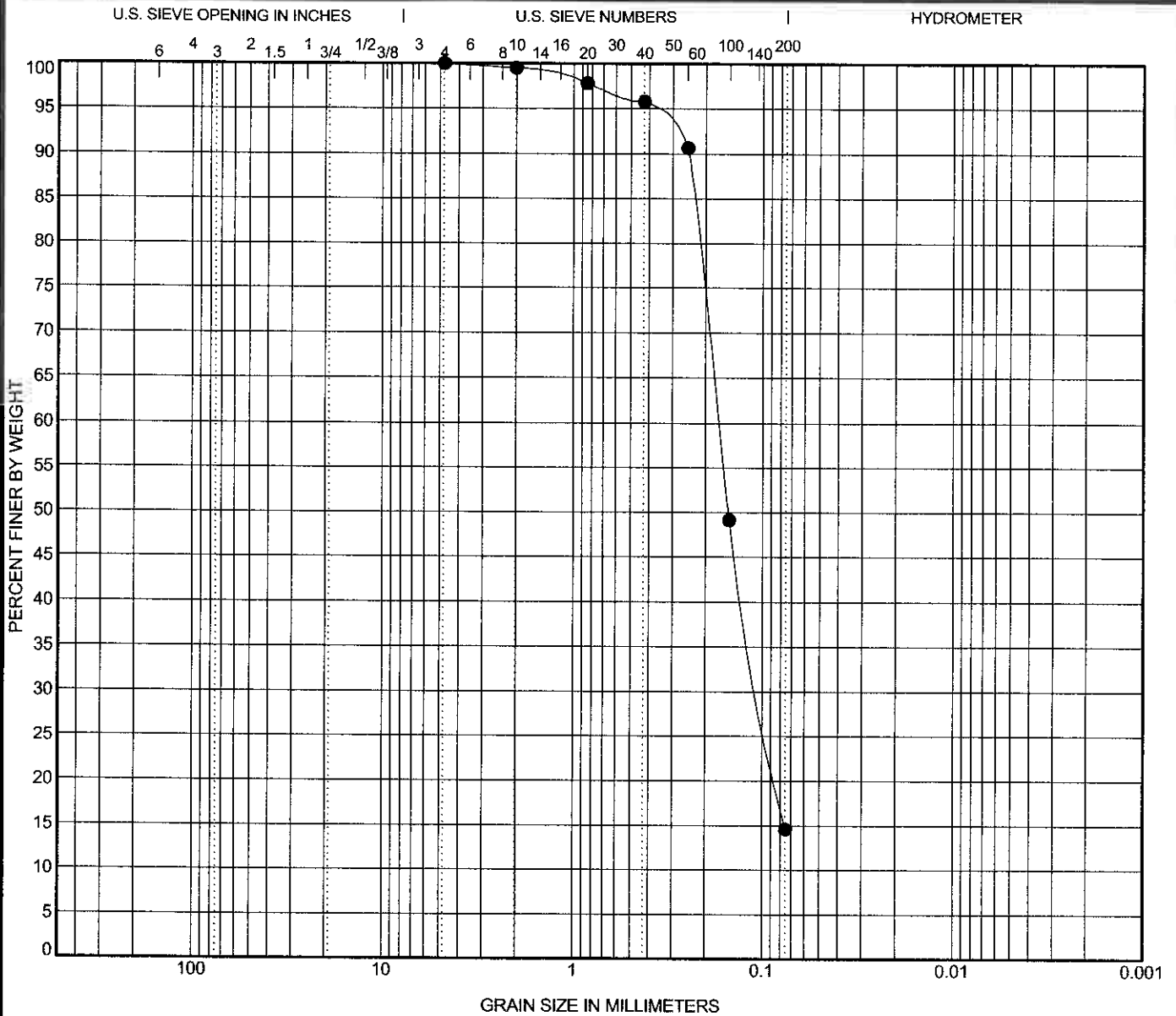
Boring No.			Depth	Classification				LL	PL	PI	Cc	Cu
●	B-11	at	3.0	SILTY SAND (SM)				NP	NP	NP		
		at										
		at										
		at										
		at										
Boring No.			Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay	
●	B-11	at	3.0	4.75	0.194	0.151		0.0	83.8	16.2		
		at										
		at										
		at										
		at										



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COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Boring No.				Depth	Classification					LL	PL	PI	Cc	Cu
●	B-13	at	3.0	SILTY SAND (SM)					NP	NP	NP			
		at												
		at												
		at												
		at												
Boring No.				Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay		
●	B-13	at	3.0	4.75	0.171	0.102			0.0	85.4	14.6			
		at												
		at												
		at												
		at												



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